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THE

ARCHITECTURAL MAGAZINE,

AND

JOURNAL

OF IMPROVEMENT IN

ARCHITECTURE, BUILDING, AND FURNISHING,

AND IN THE VARIOUS ARTS AND TRADES
CONNECTED THEREWITH.

CONDUCTED BY J. C. LOUDON, F.L.S. G.S. &c.

AUTHOR OF THE ENCYCLOPÆDIA OF COTTAGE, FARM, AND VILLA ARCHITECTURE
AND FURNITURE.

VOL. II.

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PREFACE.

In completing this Second Volume of the *Architectural Magazine*, it is no small satisfaction to its Conductor, to be able to state, that the experiment of publishing a periodical exclusively devoted to Architecture, made by him in Britain for the first time, is likely to be attended with success.

On looking over the List of Contributors to the present Volume, it will be found that the number is very considerable, taking into account the infancy of the periodical. We consider this a circumstance which promises well for the support of the Magazine, and for the diffusion of the knowledge which it contains. It would be an easy matter to hire writers to produce elaborate essays on different topics; and we might by this means fill the Magazine without the aid of voluntary contributors. But what would be the consequence? A work for the few would be produced, instead of one for the many; and such a work as could never be carried on without great pecuniary loss, and could never effect the great objects which we have in view; viz. the diffusion of a knowledge of Architecture among general readers, and the improvement both of the knowledge and the taste, not only of young architects, but of all the persons employed in the different branches of building and furnishing. We are quite aware that it is the opinion of many architects, that "a little taste," in the carpenters and other mechanics that they employ, is "a dangerous thing;" but we consider a little taste better than none at all; and, if we live to conduct the *Architectural Magazine* for a few years longer, we have no doubt of rendering the "little taste," which now exists among carpenters and other mechanics, a great deal. There is nothing in the nature of the employment of a carpenter, or of a mechanic of any kind, to prevent him from having just ideas in matters of taste, as well as in other matters. All that he wants is education, and access to books; the first of these he is getting, or will get, from the establishment of national parochial schools by the legislature, and the second from having access to those libraries, museums, &c., contemplated by the Select Committee of Arts and Manufactures, which has just published its *Report*. We have repeatedly stated our reasons for being of opinion, that, to insure good taste in all the common buildings of a country, we must first produce it in the workmen who construct those buildings, and in the persons who occupy them. There is no workman who has so much to do with buildings as the carpenter; and our wish is to make all carpenters architects in point of knowledge and taste, and all persons whatever critics in architecture.

We can only effect these important objects by a various and extensive correspondence, and by the communications of eminent architects, together with those of general observers. We have been fortunate enough to obtain some of both classes, to whom we return our best thanks; requesting their continued cooperation, and inviting all others who take an interest in the subject of Architecture, whether they agree with us in opinion or not, to join them. We are always open to criticism; and we are not so wedded to any opinion, as to be unable to give it up when we are convinced that it is erroneous.

Bayswater, Nov. 15. 1835. J. C. L.

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THE

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ORIGINAL COMMUNICATIONS.

Art. I. *On Unity of System in Architecture.* By the Conductor.

"The unity of the whole, and the connection of the parts," are words which comprise almost every thing in the application of the principles of criticism to architecture, and to landscape-gardening. The word Unity is not unfrequently used to designate that quality in an object which is opposed to variety; but here the word Sameness would be preferable. The word Unity, as it appears to us, can be only legitimately applied to those compositions, every part of which unites in producing one kind of effect, expression, or whole. There are various requisites to this oneness of expression; such as, Unity of System, Unity of Style, Unity of Composition, Unity of Character, &c.; but we shall confine ourselves, in the present fragment, to Unity of System.

Every building must necessarily be constructed on one of two systems. The first is the system of supporting the roof by pillars, round or square, surmounted by horizontal beams; or, in other words, by the columns and architraves of Classical architecture: the other system is that of supporting the roof by walls, or by systems of arches, as in Gothic architecture, and in some modifications of the Roman manner of applying the Classic style.

Now, to preserve Unity of System in a building, the architect must compose his design, throughout, with reference to one or other of these modes of supporting the roof. It is not necessary that the roof should actually be supported either solely by columns or solely by arcades; it is sufficient that it should appear to be so: for, in architecture, as in every art which is far removed from a rude state, a system of fiction is adopted, for the sake of consistency and effect, and to keep up the associations connected with the aboriginal uses of the parts employed. A pilaster, for example, represents a square column or pillar, supposed to be of the thickness of the wall in which it is placed, and to be of a much stronger and more durable material than the wall itself. The wall, indeed, is supposed to be

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merely the filling in of the intervals between the pillars, from the ground to the architrave, adopted originally to keep out the weather, and of no use whatever with reference to supporting the roof. This filling in we may suppose to have been originally of mud or brickwork, or even of straw or wood. This is the fiction of Classical architecture, but the reality of it is, that the pilasters and the wall are generally of the same material; and that the former, with their architraves, are merely projections from its surface, of little or no real use, but as supporting the fictitious idea intended to be conveyed. We may observe here, incidentally, that this system of architectural fiction can neither be properly understood nor enjoyed by any but those who have, to a certain extent, studied the details of Classical architecture, and their supposed origin.

Where the system of arches is employed, that part of the wall under the arch which is supposed to be filled up only to keep out the weather (like the intervals between the square columns) is supposed to be built or filled in with a weaker material, and of a less thickness, than the piers which support the arch, and the parapet over it. This is the fictitious system acted upon: in the real one, the materials and the thickness may be nearly the same, both in the piers and between them; and the whole wall may be, as it commonly is, of the same material.

Now, on the supposition that this theory of a fictitious system is correct; and that, when such a system is commenced, it is worth while to pursue it through every part of a building; a host of architectural errors, committed by our first architects, at once recur to our recollection. Of these we shall here point out a few, for the purpose of suggesting to the mind of the young critic how he may discover others.

Whether the roof is supported by a system of square or round columns, or of pointed or circular arcades, the walls in the intervals should never have much expression given to them as such. If, for example, they are of stone, or stuccoed so as to resemble that material, the joints of the stones should never be strongly marked, and on no account so much so as to come under the denomination of rusticated, and the stones should never be large. In proportion as the expression of these filled-in or shelter walls, as they may be called, is strong, in the same proportion is that of the supporting columns, pillars, or piers, weakened, and, consequently, the fiction intended to be conveyed counteracted. This rule, which no one who knows any thing of architecture can deny being founded on the soundest principles, is very commonly violated in London; and, as one of the grossest instances, we have only to refer to the Bank of England: St. Paul's is also liable to the same objection, as well as Somerset House, and Whitehall.

When the piers in a system of arches are rusticated, or of any kind of stone (such as granite) which indicates extraordinary strength, the interspaces should be plain, or be, or appear to be, of a weaker kind of stone, or of brick.

When columns or piers are of the same kind of stone as the spaces between them, they should be, or should appear to be, composed of larger blocks of that stone, as being expressive of greater strength. From this rule arises a difficulty in executing a system either of arcades or pillars, with proper effect, in common brick work; but when the pillars or piers are stuccoed, and marked or rusticated, the difficulty is turned into one of the greatest beauties. The introduction of stone courses or mouldings, or of windows between the piers, greatly overcomes the difficulty: of this there is a fine example in St. Luke's Hospital, where the system of arches is continued throughout the whole elevation of the principal front.

One of the grossest violations of the principle here laid down, is, when a system of piers and arches, and a system of pillars and architraves, are employed in the same building. This error may be observed in the grand hall of the General Post-Office, where the windows in the farther end of the hall, opposite the principal entrance, have circular heads; while all the other openings in the same hall, and all those in the principal elevation of the building, are square-headed. In the interior of the Pantheon Bazaar in Oxford Street, the system pursued is that of piers and arches, and the effect, looking at the sides and roof, when entering from Oxford Street, is harmonious and beautiful; but, on arriving at the opposite end, if we turn round, and look up to the gallery, we are shocked by a square opening with coupled pilasters on each side, surmounted by an architrave, without any connection whatever with any part of the prevailing system.

We shall continue to apply this principle of Unity of System, till we get through a number of the more remarkable buildings in London.

Art. II. *Some Remarks on Architectural Design, as affecting the inferior Arts connected with Building.* By E. Trotman, Esq.

By the term "inferior arts," we would be understood to refer to those which are called into operation to render an edifice complete, but which are not essentially concerned in its construction and stability. With the works of the mason and bricklayer, of the carpenter and carver, is obviously the first business of the architect; but his attention might often extend, with advantage, to the less important performances of the ironworker and cabinet-maker, not to say of the paper-hanger and upholsterer. In these we have been surprised to observe how much labour is thrown away in the endeavour to produce effect, from want of a proper acquaintance with leading principles, which would serve, not unfrequently, to abridge the toil and improve the result, in precisely the same proportion. The reason of this is obviously to be met with in the fact that superficial observers have no idea of character in minutiæ, except such as may be gained from a general imitation, on a small scale, of great and striking objects. They do not discover that their originals would furnish them with details and detached features, analogous in office to the subjects which they have to decorate, and capable of being moulded into a chaste and unobtrusive consistency: but they must needs endeavour to secure character, by crowding as much elaborate detail as possible into a small space; and thus, grasping at too much, they lose all. We may take an illustration of this, in the current Gothic of stoves, grates, fenders, and the generality of ironwork; wherein the established usage is to begin at the wrong end, with the unsparing application of tracery, crockets, imitations of church windows, and the like, as one should expect to find a Grub Street versifier manufacturing an epic with hard words and the rhyming dictionary: the pains, in both cases, being rewarded with similar success. In different style, but in the same feeling, the most handsome design for such a thing as a candlestick would, a few years ago, have been sought for in some form like that of a little Corinthian column, fluted, cabled, enwreathed with garlands, and mounted on a pedestal equally gay, with flowery festoons. To whatever degree the recent preference for Grecian models of architecture may have impoverished many of the compositions of our own day, it has at least been productive of this good effect, that it has led to the rejection of some of this frivolous crowding with ornament: thus preparing the way for a better style; a style for which, too, it has furnished material, in introducing us to a greater acquaintance with foliage and details of classical design.

It is worthy of notice that all artificial forms of decoration, as applied to the commonest objects that come under our daily observation, where the productions of nature are not imitated, are borrowed from, and are truly the property of, architecture. Reeds, hollows, flutings, fillets, and the like, are constantly applied (somewhat indiscriminately, indeed) to the most ordinary kinds of turnery, metal, and cabinetwork. As more decoration of figure is attempted, the more is architecture laid under contribution. Caricatured its members often may be, as applied to the inferior arts; but they are still to be referred to it as their source, varying with the popular changes in architectural taste, though lagging far behind the standard of professional acquaintance with any particular mode. Nor is it to be expected that the improvement will be much greater, until those who are intrusted with the execution of such things feel the necessity of acquiring an extensive knowledge of architectural decoration and precedent, and thus of discriminating between the showy and the expressive. In short, in all these subjects expression of purpose is every thing. In Gothic furniture and fittings, for instance, the back of a chair is not to be the front of a doll's cathedral, a stove is not to be a shrine, nor a fender a miniature screen wall. As little is a clustered column to be transformed into a gas-pillar, or a buttress-flanked arch into a scraper. In such cases the borrowed and misapplied character makes those matters ridiculous, which, under a less assuming, and apparently less studied, form, would contribute to, instead of interrupting, the harmony of the architectural features with which they come into connection. Hints for the better design of such articles may be obtained without difficulty by those who have the discernment, and will take the trouble, rather to modernise the antique than to Gothicise the modern, rather to modify old outlines than to fill up commonplace outlines with old details. Thus, the simple flowing lines which describe the plain stalls in some of our ancient churches might be adapted to the purposes of the modern Gothic chair, with decision of character, yet without necessarily involving cumbrousness. The dogs and andirons of the old fireplaces might afford a suggestion for the improved consistency of a grate, even without causing the rejection of coal fires or of the principle of the register stove. To do this, it is not needful to seek for the relief of many mouldings, but to know how to use even one, the simplest and plainest, with force and expression. The mere chamfering-off of an edge will often bespeak more of this perception of expression than could any elaborate decoration. So acute, indeed, was such perception in the minds of our old builders, that we see them constantly adopting this particular mode of giving character to the timbers even of roofs which were never intended to be, nor indeed could be, exposed to public sight; and that, too, in the most rugged and economical order of workmanship. Masters in their own peculiar style, they felt themselves at no loss for means by which to give significancy to their work, where, from considerations of economy, they were denied the use of elaborate ornament. We should not have found them, in the design of some commonplace piece of metal-work, covering every square inch of surface with tracery, for the purpose of classification, like the painter's explanatory "this is a lion." This architectural quackery, like other kinds, betrays itself in its over-eagerness to be fine.

Those who have to do with the works of art, even in its inferior departments, have no less need than artists of a higher order to remember that character and force of outline are matters of the first importance; and that, when these are rightly understood, a well-stored mind will supply the detail almost mechanically. In character of outline, we would understand both the expression of purpose and the expression of style; and this, as united with force, comprehends both elegance and individuality. Thus, in the outlines of the painter, the expression of purpose is identical with that distribution of form which, at the first glance, reveals the master passion of the subject; while the expression of style necessarily governs all matters of costume and of circumstance. The outlines of architectural compositions are ruled by precisely the same principles of character; in the application of which, indeed, a parallel representation with the former case might be extended to a considerable length. The same rules will hold good as we descend to all less important classes of ornamental figure; and their necessary effect will be, an increased simplicity of composition in the progress downward, and a less decided assumption of those architectural forms which we have shown to be inseparable from the decoration of all regular figures. Thus, to revert to a former simple object of comparison, we shall, of course, be led to reject the conceit of the Corinthian-column candlestick, and to give the preference to forms which, as applied to a thing so diminutive, will be more free and intelligible: to those, for instance, of a few intertwining bay leaves, or a modified acanthus. Designs of this character are now, fortunately, not uncommon in our shops; and are frequently executed, in the soberness of bronze, with much taste and beauty. It is to subjects which require boldness and ornament, without much architectural pretension (especially as associated with the features of the Italian style), that the mode of decoration known as that of Louis XIV. is so admirably adapted. It is, indeed, a mode which, when amplified, and carried to such an excess as to interfere with, or to supersede, the members of regular architecture, becomes unmeaning and absurd; but, when confined within its proper limits, as applied to various articles of furniture, it is at once characteristic and elegant. It is so, because the flexibility of its prevailing lines renders it easy of adaptation to the forms of common objects; while its playfulness is grateful to the eye, and its want of architectural coherency leaves it the less exposed to abuse at the hands of those whose general knowledge of style may be but superficial.

These principles of attention to expression and beauty of outline on the one hand, and of regard to, and modification upon, ancient precedent on the other, are undoubtedly the chief guides to excellence in those arts that are subordinate, as in those that are essential, to architecture. We might trace their natural influence through many of those departments to which they are but too little applied, and show how much of beauty and of fitness has been lost by their neglect. Suppose the very agreeable innovation of carpeting required for a suite of Gothic apartments, where shall we obtain ready-made patterns satisfactory to the architect of cultivated taste? For these, however, the designs of our old stained glass, and other occasional paintings, will afford excellent suggestions, in their richly flowing diapers, their undulating foliage on grounds of vivid blue or red, their lozenge compartments of rose and fleur-de-lis, and many other varied applications of leaf and flower. Or, again, hints for the same purpose may be gained from the ornamental tile-paving anciently in frequent use; not to say from the tapestry of correspondent age. Even the paper-hanger may have recourse to some of the same sources of information with advantage. Might not, too, the accompaniments of architecture, after the Roman manner, be improved by a reference to such decorations as those of the paintings of Pompeii, and of the Roman tessellated pavements, not uncommonly met with even in our own country? In addition to those classes already enumerated, we need scarcely remark that the ornamental glazier and glass-stainer are persons in whom an acquaintance with the principles we have noticed is especially requisite; so much so, indeed, that their designs ought always to be under the immediate control of the architect.

But we will not attempt to follow out the operation of these principles in all their relations. We can but briefly suggest and recommend them; leaving it to the reader to supply, by the study of examples, that practical illustration which cannot be afforded by mere verbal description.

London, Nov. 28. 1834.

Art. III. *On the Principles of Taste, with reference to Architecture, and the Fine Arts generally.* From the French of M. Quatremère de Quincy. By P.

Among the different acceptations in which the term Taste is used in the fine arts, the most general is that which considers it more as an active principle of the mind than as genius. Taking the word in this sense, we shall first consider Taste as the innate feeling or sentiment of propriety; we shall next examine it under another of its acceptations, as indicating a manner of observing and imitating nature. Afterwards, we shall exhibit it under a third point of view, as synonymous with a distinctive style or character of art.

Sect. I. *Of Taste as an innate Feeling or Sentiment of Pro-*

priety. — There is no doubt that, as the general idea of Taste, in its application to the works or labours of the mind, and to the powers of imitation, was borrowed from the property possessed by the physical organs of appreciating the savour of food, the word which expresses this idea intellectually, ought only to signify the faculty of discerning the qualities of works and of outward objects. To appreciate the value and nature of this faculty, in the sense to which we shall here confine its acceptation, we must know what are the qualities of those works and objects of which Taste is peculiarly the judge. Experience and theory teach us that there are in all things and between all objects belonging to the fine arts certain slight and delicate affinities, the observance of which does not constitute the essential merit of a work, but which complete its accessary value, and add to the pleasure received from it.

For example, that which, according to the ordinary language of the world, constitutes a man of taste, consists in a certain style of manner; in the talent of speaking to the purpose; in wit and agreeableness; and in a polished and prepossessing exterior. Again, in all that relates to imitation in the fine arts, the faculty which we call Taste is exercised principally on the agreeable qualities, and in the choice of a certain manner of being or acting which the sentiment of taste alone can enable any one to comprehend, and which no analysis can demonstrate. Thus, in drawing, it is not Taste which teaches us, or which causes us to appreciate, the regularity of forms; Taste, on the contrary, most frequently causes or justifies exceptions to rules, and, by a sort of charm, softens their rigour and tempers their severity. It is not Taste which, in composition, discovers those grand parts of design, those happy lines, those imposing masses, which seize at once upon the mind and the senses. But it is Taste which often mingles with these combinations that attraction of ease and facility from which results the appearance of a spontaneous production.

In colouring and execution, Taste is neither capable of producing a great effect, nor that brilliant harmony, that appearance of truth, nor that boldness of execution, which every one knows belongs to another faculty, Genius: but the influence of Taste is not the less useful, whether it moderates the flight of imagination, or suggests a happy choice of varied resources; or adds to the work certain ornaments which take from it all traces of stiffness or formality. Thus Taste gives the last charm to the productions of Genius.

In architecture the effects of Taste are neither less felt nor less important: perhaps, even, this art being of all others the most arbitrary, it has more occasion than any other for Taste to justify its use. It belongs to Taste to determine the proportions and the style which shall constitute the character of a design. It is Taste which selects from the varied shades of different styles that which will best suit the general expression to be produced. It is Taste, particularly, which we should require, to decide upon the quantity of enrichment which may be employed, on its distribution, and on the choice of ornaments to agree with the ultimate destination of the edifice, and with the effect of each of its parts.

When we endeavour to trace the effects of Taste in architecture, we fancy we can detect every part that manifests its influence; but, when we come to analyse this feeling, we find that Taste is not shown singly in the grandeur of invention, or in the power of reasoning displayed; or even in the energy of execution, or in the effect of truth; but in a certain charm which combines these qualities, and which, by ruling the action of each, arrests and fixes it at the point which is most suitable to each subject, and to each of its parts. It is from its possessing this charm, that Taste has been defined, with much justice, the *Innate Feeling of Propriety.*

Taste, considered in the acceptation under which we have just defined it, is, then, a necessary quality for the completion and perfection of all other qualities. Although it operates on things not apparently very important, it is from its direct or indirect operation that result the full merit and charm of every work. Nevertheless, we ought to say that we should fear allowing it to have too much rule; as its mode of action, ill understood, would lead to excess. If it is not restricted within just bounds, it spoils what it ought to embellish; and it finishes by destroying itself.

Sect. II. *Of Taste, as displayed in the Manner of observing and imitating Nature.*—The word Taste bears a second acceptation, when used in the language of the arts, with an epithet joined to it; as, a grand, niggardly, correct, pure, depraved taste, &c. It appears, then, that Taste signifies, when applied to an artist, his manner of observing and imitating nature.

To define here all the different modes of observation from which result what are called the diversities of taste, would be to enter into a discussion on the meaning of all the words employed to characterise each style; but we must not omit to explain the most common and usual ideas which are expressed by the words good or bad taste, about which there are many controversies. The phrase good taste supposes and admits that, in the different styles of observing and imitating nature, there is one mode acknowledged as good, and as preferable to all others. But, even on this point, numerous disputes have arisen, in which the familiar proverb has often been quoted, "There is no accounting for taste," without thinking that this proverb is only applicable to the physical taste, concerning which all controversy would, indeed, be ridiculous. With respect to intellectual taste, on the contrary, the dispute is not only natural, but necessary. In extending the question upon imitative taste to all countries, to all ages, and, consequently, to every diversity in the mode of observation, some will hold that certain tastes, from their prevalence, ought to rule; while others will pretend, from the diversities of taste which are acknowledged to exist, that no one taste is better than another. We do not propose to enter here into the grounds of this debate; we shall only confine ourselves to showing that, the word Taste being susceptible of a very vague interpretation, it is this vagueness of idea that has produced the existing diversity of opinions. If, in reality, according to the sense that ought to be given to the words good taste, these words signify the best manner of seeing and imitating nature; in the parallel of tastes which are opposed to that which we call good, two questions arise which are never answered. The first point is to ascertain whether those countries, and those men, whose manners of observing and imitating nature have been compared, have ever really observed it, and have ever really proposed to imitate it. The second, and more important, point consists in examining whether these countries, and these men, were or are in a state fit to observe and study nature, and, consequently, to imitate it.

In the comparisons which are made between the different tastes which have reigned, or do still reign, in different ages and countries, and that which we acknowledge to be exclusively good taste, we should not decide according to the majority of votes, because the majority is necessarily composed of people ignorant of art. Every kind of taste which results only from the mechanism of instinct, or which belongs to the irregular influence of local or temporary causes, and does not rest on the study of nature, cannot enter into comparison with what we call good taste; inasmuch as it is certain that good taste originated among the people most capable of imitating nature, and in the country where all sorts of circumstances favoured its study, and, if we may so say, necessitated artists to penetrate to the grand principles of their model (nature), and to derive from it all possible results and consequences. Taste, considered as a manner of observing and imitating nature, cannot arrive at the point of attaining the best manner of doing so, but by the most perfect knowledge of the principles of this kind of imitation. As these principles are constant and invariable (often as they are misunderstood), it always happens that what is termed good taste reappears and reassumes its empire as soons as it finds men and times sufficiently enlightened to feel the necessity of recurring to its first principles: and, it will be observed, that, in reappearing in the same shape, this taste will always show itself to be the good; while false, or bad taste, will reproduce itself under a hundred different forms: which is to be expected, because false, or bad, taste wants a fixed principle, or, if it be allowed to have any principle at all, it is that of never acknowledging any.

Sect. III. *Of Taste in its distinctive Character.* — To finish explaining the principal acceptations of the word Taste, in its connection with the language of the arts, we must add, that we likewise take this word in a sense something like an individual manner or physiognomy, when it is applied either to times or countries which have cultivated, or do cultivate, the fine arts with success; or to the artists of different schools, or to their productions. It is certainly and exclusively of the manner and method (whatever it may be in the same principles of imitation) that they say, the Italian, Florentine, Venetian, French, Flemish taste, &c. These diversities of style are only the varieties of the same taste, or, if it is preferred, dialects of the same language. All these schools are united among themselves by a community of principles; but each, having cultivated one part in preference to others, distinguishes itself either by a superiority in one style, or by an inferiority in another. The word Taste, inasmuch as it signifies the distinctive character of the works of each master, presents still a shade of difference in its acceptation. Properly speaking, it might be pretended that there are as many tastes as artists. Taste would then signify individual physiognomy, personal variety, or else every one's peculiar mode of action.

It is for this reason we say, the peculiar taste of each artist, to express the inclination he has for a certain branch of the art, or the preference he gives to one kind of subject more than another. This we sometimes call natural taste, because it appears (if we may so say) to be innate, and is derived from an inclination which is apparently received from nature.

All these notions, as may be perceived, are as applicable to architecture, as to other arts. The different styles of architecture are distinguished by giving them the name of tastes. We say the taste of Grecian, Roman, or Modern architecture, the Gothic taste, the Egyptian taste. This word may then be considered as sometimes synonymous with principles, sometimes with style, and sometimes with caprice.

How much will an art condemned to lend itself to the variable wants of society, the true model for which is an understanding of the moral law of nature, and the combinations and effects of which cannot be calculated by any material type or figure — how much, we repeat, will it be exposed to become the sport of imaginative fancies, of paradoxes, of the spirit of systematic exclusion, and of the mutability of the spirit of innovation?

Art. IV. *Remarks on Competition Plans, &c.* By Hostis.

Every person, whose attention has been in the least degree directed to architecture, must have observed that, in the present day, the practice of procuring plans for buildings, by public competition, is becoming more and more prevalent. It is, perhaps, only of late years that this custom has been generally acted upon; and it is more commonly employed in the case of public buildings than in those of a private nature. When a public building is about to be erected, the parties advertise a description of what is wanted; offering, generally, a premium for the best plan, or for that which shall be finally adopted. Sometimes the successful competitors have nothing for their reward but that of being employed to conduct the work, for which they are paid as in ordinary cases. The plans submitted are, or should be, distinguished by a private mark, referring to a sealed letter sent by the competitor, in which his real address is to be found; and it not unfrequently happens that there will be from forty to fifty of such plans sent in, varying, of course, in equally numerous degrees of merit. Not a few of these drawings are the result of great labour, seldom occupying the time of the competitor for less than three weeks; and, if the building be very extensive, and the design well matured, having employed his sole attention for months together. The unsuccessful competitor, consequently, sustains a very serious loss; as he is not like the landscape or figure painter, who can carry his drawings to the market: the plans of the architect can be of no use but for the purpose for which they were originally intended. In fact, there cannot be, in any other profession, a competition which requires such a sacrifice on the part of the competitor as in architecture; and, were this sufficiently impressed on the public mind, there can be no doubt but the labours of the architect would, in all such cases, be more duly appreciated, and, at least, rewarded with an impartial distribution of justice.

It may here be remarked, that sufficient time is seldom allowed by the advertisers for preparing the plans; for it will be confessed by every architect, that the faults of his composition will be easier detected by himself after it has been laid aside for a time: we should say, therefore, that six months at least should be given, or even a longer period, according as the subject may require.

Although the system of competition in architecture is accompanied with no small expense to the parties competing, yet it cannot be denied that, when rightly conducted, it is conducive to the greatest advantages to the public, and is the only true method of eliciting the brightest talents of the country; especially when the premium held out is of sufficient value to induce proficient architects to come forward with their works: and, surely, the erection of a building which is destined to continue for ages, standing forth to posterity as an example of the architectural genius of our time, is not unworthy of the most assiduous attention. The practice has also a beneficial effect, in affording to a young architect facilities, which he could not otherwise possess, of pushing himself forward. Private competition plans are sometimes required, where the competitors are previously chosen out, and where all are paid a certain amount for their trouble, whether successful or not: this is certainly the most liberal method, and should be adopted where the funds are sufficient.

In most cases where a decision is made on competition plans, the judges consist of men who are but indifferently qualified for the task; and whose fancy is easily carried away by a gaudy picture, the intrinsic merits of which they are incapable of appreciating; or, perhaps, by a design which has nothing else to recommend it but that of being so commonplace in its character as to be more familiar to their ideas than one of higher pretensions. Indeed, it is not to be supposed that men, whose pursuits of life are so totally unconnected with the subject as never even to have led them to the inspection of a simple plan of a house, should be able to form a correct judgment of a number of elaborate drawings. It often happens, indeed, that the judges are so bewildered with the brilliant display before them, that they readily give way to some almost equally ignorant but pretending builder, to whom they look up as to the architectural oracle of their body; and who, it may be supposed, will not let slip such an opportunity of serving his own ends. This may, perhaps, be thought rather an uncharitable conclusion; but, certainly, there is but too much reason to fear that sinister influences have, in many cases, had an undue weight: and it is the particular object of this article to point out these grievances.

On such occasions as that we are just referring to, the most obvious method of proceeding, and that which would be the most entirely free from all suspicion of partiality, would be, to name two or more architects, of acknowledged celebrity in their profession (and residing at a distance), to whom the plans should be sent for final decision. Care should also be taken by all judges, in forming their decision, to keep in mind the terms of the competition; for, although the value or cost of the building required by the advertisement be strictly attended to by some competitors, yet there are others who will disregard it; and will produce an elegant design, although its expense should be double the stipulated estimate; and who, by this trick, may blind the judgment of the umpires, and carry off the prize.

The undue means which are sometimes resorted to by competitors, to forward their own cause, are disgraceful in the extreme: some have been known openly to carry about their designs, for the purpose of procuring votes before the general exhibition; some unfairly attach their names to their plans (instead of using a private mark, as they ought to do), in the hope that their friends may exert undue influence in their favour, or from a vain confidence in their own importance, which leads them to expect that the name alone will produce a favourable impression; and some have even been known, surreptitiously, to withdraw their designs from the exhibition, in order to add improvements which have been suggested by the designs of another: nay, such is the total want of principle, and disregard of justice to the competitors, shown in some cases, that an instance could be brought forward where one of the competitors was appointed the judge! This competitor judge most naturally gave his decision in favour of his own designs; and the unsuccessful competitors were dismissed with the most cogent and satisfactory argument that "the judge was a man of such respectability, that he would not have chosen his own design unless he had considered it the best!" Is it possible to conceive that language could be so sophisticated as to apologise for such conduct? Thus it is that nine out of ten competitions are decided; and thus are the architects treated who have spent a large portion of their valuable time for the benefit of the public. It must be acknowledged, however, that isolated cases occur, though few and far between, where no complaints of this nature can be made, and where fair play has been allowed to have had full scope. The Tron Church steeple, Edinburgh, erected, in 1828, by the architects Messrs. R. and R. Dickson, may be mentioned as an instance of fair competition: the choice of the plan reflects the highest credit upon the then magistrates of the city, who made their election from a great number of designs. Considering its cost, this steeple, for aptness, originality, and picturesque beauty, can scarcely be surpassed in any country. It would not be easy to cite many instances of the same kind in Scotland; but we may mention another, viz.: Burns's monument at Ayr, by Thomas Hamilton, Esq., of Edinburgh. This is an exquisite gem of Grecian architecture; of which school its tasteful architect is a distinguished disciple. Finally, it is evident that the grievance here complained of, and which calls so loudly for redress, is in no way amenable to the civil law; unless in such a case as we have before hinted at, viz. where the judges do not abide by the advertised terms of the competition. Even in such cases, we are not sure how far they lay themselves open to have their proceedings legally called in question; so that an appeal can only be made to the moral rectitude of society: and we have no doubt that the evil only requires to be fairly exposed, to be, in time, totally eradicated.

Edinburgh, Oct. 1834.

Art. V. *On the External Ornaments employed in Architecture.*

By James Main, Esq.

Ever since the commencement of the *Architectural Magazine*, I have had it in contemplation to offer a few remarks, or rather to ask a few questions, relative to the external ornaments of some of our modern buildings; which, I conceive, deserve a little more taste bestowed on their designs than appears at present to be the case.

What particularly strikes me is, that, if any rules have been laid down for the guidance of the architect in this branch of his profession, they are at this time, in many cases, sadly neglected. In looking round among the nations where architecture has flourished, perhaps the buildings of the Chinese are the most profusely ornamented. Fretwork of every character prevails; not only on and between the paneling of the walls, but also along the ridges, eaves, and hips of the roof. Within, and at the angles and terminations of these frets, the most hideous and uncouth figures of monstrous animals are lavishly introduced. The carver, gilder, and painter are all employed in embellishing both the interior and exterior of the Chinese buildings, whether public or private: but all their ornaments are of the most fantastic character; where neither grace nor propriety is visible, and where not a single object can be seen worthy of imitation.

The remains of Egyptian architecture are also profusely ornamented with ideal and fanciful configurations. Hieroglyphics appear on almost every member of their buildings; but these embellishments are of a far higher order than those of the Chinese, or, perhaps, of any other country. They are biographical, geographical, historical, or astronomical signs or emblems. By them the succeeding generations of the Egyptian race were not only taught the titles and imputed attributes of their deities, but the names, the deeds, and the fate of their princes and eminent men; and the chronology of their once powerful country could be learned from the sculptured face of many of their monumental, sepulchral, and public buildings. Such embellishment is rational, because useful, whether it be elegant or not.

Throughout Hindustan, Persia, Assyria, and the surrounding nations, much external ornament was bestowed on the pagodas, mosques, and other public edifices; but, unless it were in frequent repetitions of the national ensigns, there was neither meaning nor display of legitimate taste observable in the style of architectural embellishment.

It is not till we arrive at a later period, and among the examples left us of the architecture of Greece and Rome, that we behold appropriate and significant embellishments introduced.

These were not mere creations of fancy, without meaning; but, in most cases, perfect imitations of realities. Religious solemnities, sacrifices, military processions, &c., furnished the Grecian and Roman architects and sculptors with the finest objects for their designs; while their mythology, though fabulous, supplied the most lofty ideas in the personification of their divinities, graces, virtues, seasons, &c. In the application of these, some design or purpose was apparent; and it was generally characteristic of, or characterising, the place where erected. Emblematic ornaments are always admissible, if properly, and not too ostentatiously, applied; and, I presume, the ample field of nature is the only legitimate source whence they should be drawn.

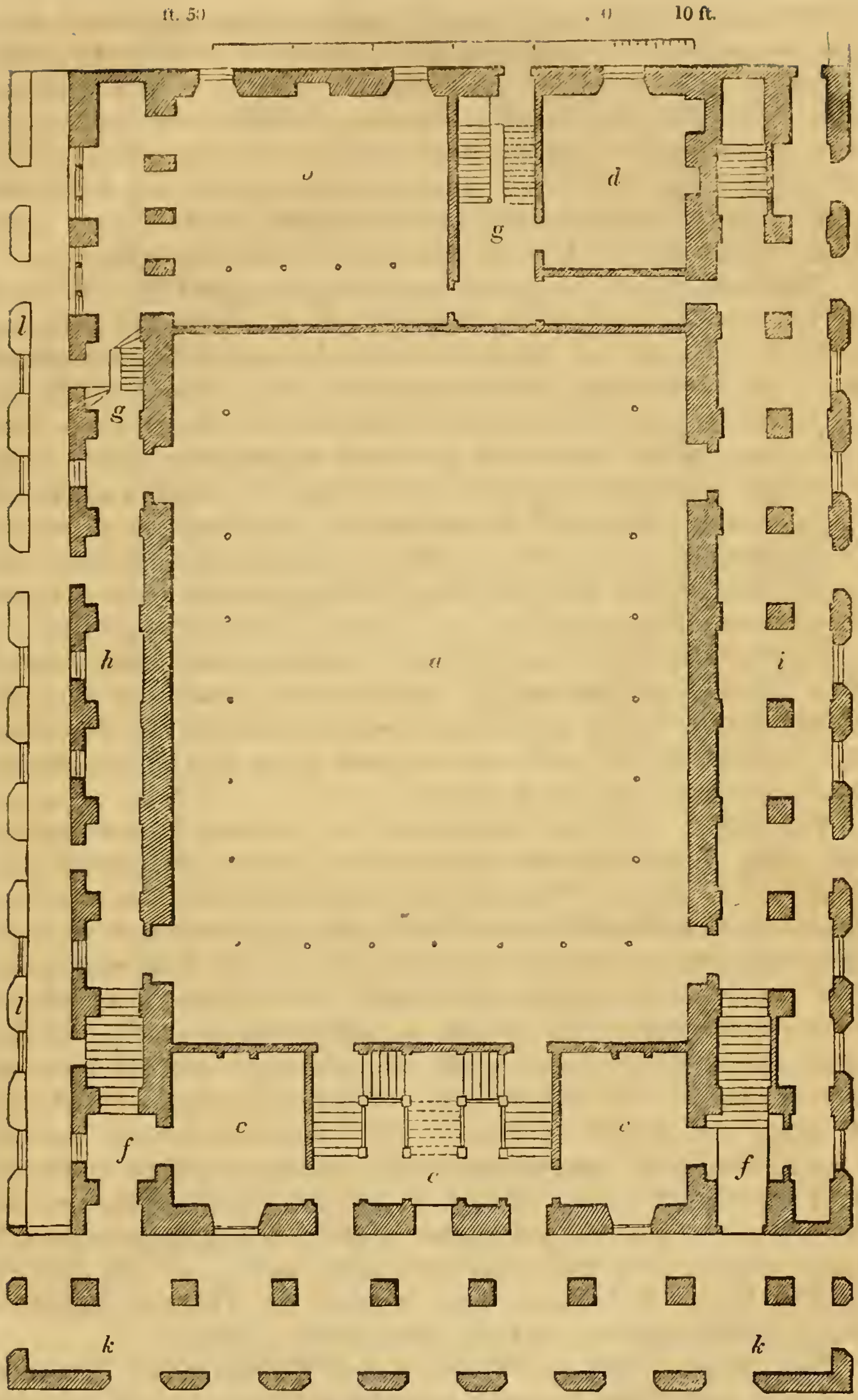
Having premised thus much, I now come to the questions which I beg leave to put, viz.: —Do the ornaments of buildings deserve any exercise of taste? Can these ornaments add to, or detract from, the dignity of an edifice? Are embellishments only admissible in certain orders or styles of architecture? Should they be imitations of physical entities, or the mere phantoms of fancy?

These questions may, no doubt, be easily answered by some one of your correspondents. The subject may be deemed rather curious than important; but it allows scope for much reflection, as well on what has been heretofore done, as on what should be the governing principle in all that may be done in future. Never before, in this country, were the arts of ornamental plastering, brass and iron founding, decorative upholstery, joinery, &c., more in fashion; and it is highly desirable that consistent and rational designs should be within reach of the artists, in each of these arts, for imitation; or, at least, that some bounds should be prescribed, by the arbiters of taste, to keep the *mar-art-ists* from extravagance. Why should they be allowed to rob the calico printer of his design, as has been done for the frieze of Pimlico palace? or filch from the stores of *nothingarianism*, as has been done to fill up the openings on each side of the Roman gate at the top of Constitution Hill? In these instances (which are all I think it necessary now to adduce) there is no breach of the second commandment committed; but, surely, far more appropriate devices might have been chosen.

Chelsea, *Aug.* 5. 1834.

ART. VI. *A Descriptive Account, accompanied by Plans, Elevations, Sections, &c., of the Birmingham New Town Hall.* By A RESIDENT IN BIRMINGHAM.

BIRMINGHAM, within the last twenty years, has risen greatly in the scale of population, wealth, and importance; and is now



Ground Plan.

a, The hall, 140 ft. by 65 ft., and 65 ft. high; *b*, a committee-room, 45 ft. by 27 ft.; *c c*, two rooms, each 19 ft. by 17 ft.; *d*, a room, 20 ft. by 18 ft.; *e*, entrance-hall and staircase, 30 ft. by 19 ft.; *f*, stairs to the side gallery; *g*, stairs to the orchestra; *h*, corridor, with entrance to the hall; *i*, corridor, or vestibule, to the hall; *k*, open arcade, or public footpath, open to Congreve Street; *l*, a wall, which is not at present finished.

rapidly becoming one of the first manufacturing towns in the kingdom. The improvements in the town itself have kept pace with the improvements of the arts and manufactures which have been so successfully cultivated in it; and new streets and public buildings have succeeded each other so rapidly, that a stranger, who knew the town twenty years ago, would now scarcely be able to recognise it as the same place. New churches, public offices, a school of arts, a market-place, new banks, &c., rival each other in taste and architectural display; and the new Town Hall crowns the whole with classic purity and magnificence.

Birmingham had long felt the want of a great hall in which public meetings might be held; and in which the triennial musical festivals, so justly celebrated, might be performed. Some of the leading inhabitants had, for years, fostered the desire of erecting a town hall which would answer these purposes, and, at the same time, give rank to the town. After many meetings, and much negotiation, the majority of the respectable ratepayers were induced to consent to the obtaining of an act of parliament granting the power of raising 25,000*l.*, by a rate upon the town, for the purpose of erecting a town hall. An act of parliament was obtained, and a piece of ground purchased at the top of New Street, on which the building was to be erected. The ground chosen was in an admirable situation; and the building, now that it is erected, forms a beautiful termination to the principal street, while its entrance front and flank are each accessible from very good streets.

The site having been determined on, a town hall committee was next formed for the purpose of carrying the act of parliament into effect. Towards the close of the year 1830, advertisements to architects were issued, offering premiums of 100*l.*, 60*l.*, and 40*l.* for the best three designs for the proposed structure; and about seventy architects, from various parts of the country, entered into the list of competition. After mature deliberation for several months, the commissioners of the town almost unanimously decided on choosing the design of Messrs. Hansom and Welch, architects, of Liverpool, as the one in every respect the most magnificent and suitable for their purposes. The stipulated cost was not to exceed 17,000*l.*; and we are informed that several designs were offered, highly creditable to their authors: among which we may name one by Charles Barry, Esq., of London, and another by Thomas Rickman, Esq., of Birmingham, as being prominent in merit.

The design of Messrs. Hansom and Welch, which the drawings will best illustrate, was a simple Corinthian temple (after the example of that of Jupiter Stator), mounted on an elevated rustic basement; which basement was so arranged as to afford all the conveniences of entrances, corridors, and saloons necessary to give comfort to the hall, and to afford every possible facility of ingress and egress to and from it.

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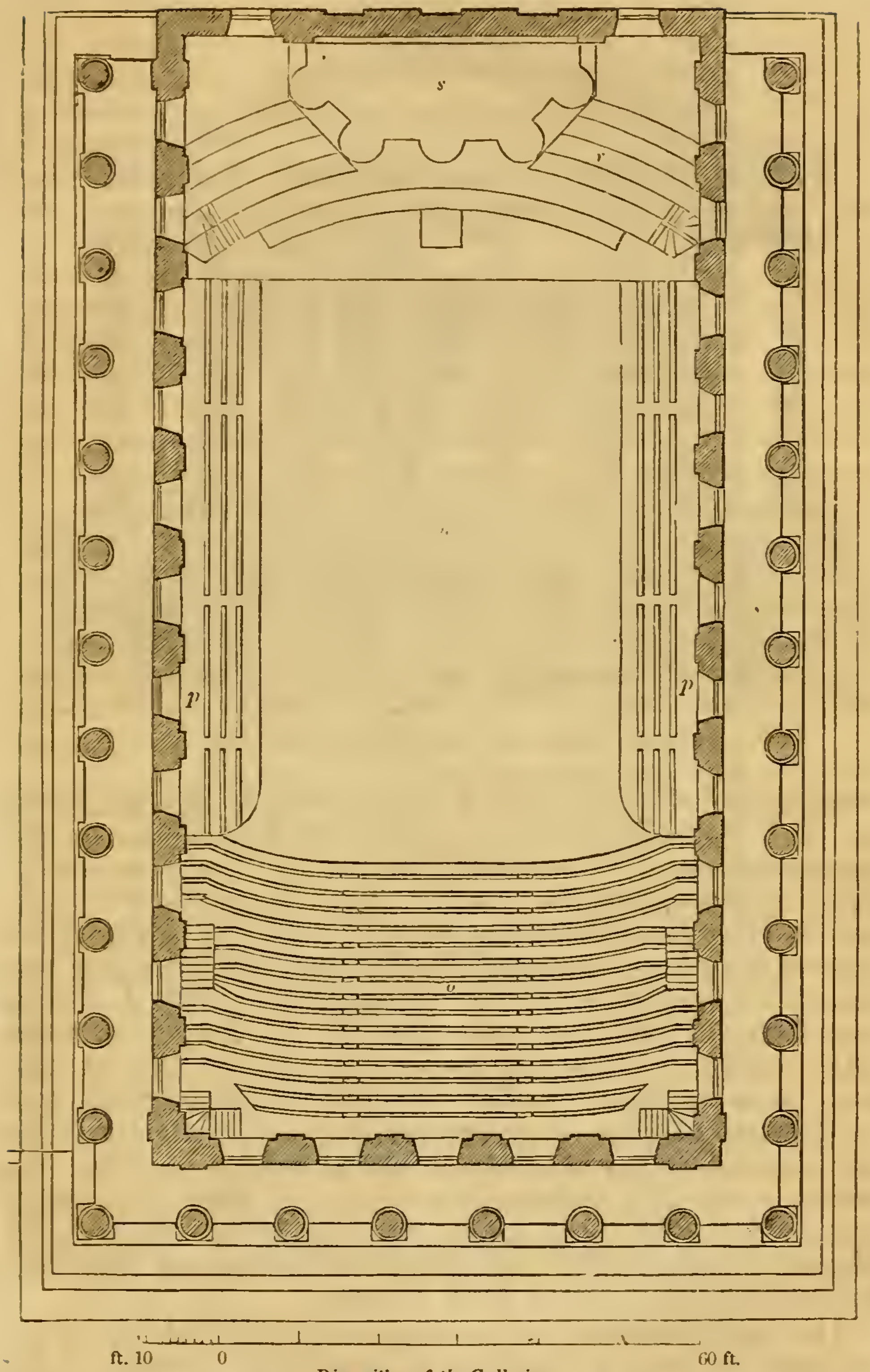

Disposition of the Galleries.

n, The space in the middle of the hall; *o*, the patrons' gallery; *p p*, the side galleries; *q*, a platform for public speakers; *r r*, the orchestra; *s*, the organ.

The ground allotted for the hall being only just the length required for the great room itself, the architects were obliged to project the basement, at the principal entrance end, over the

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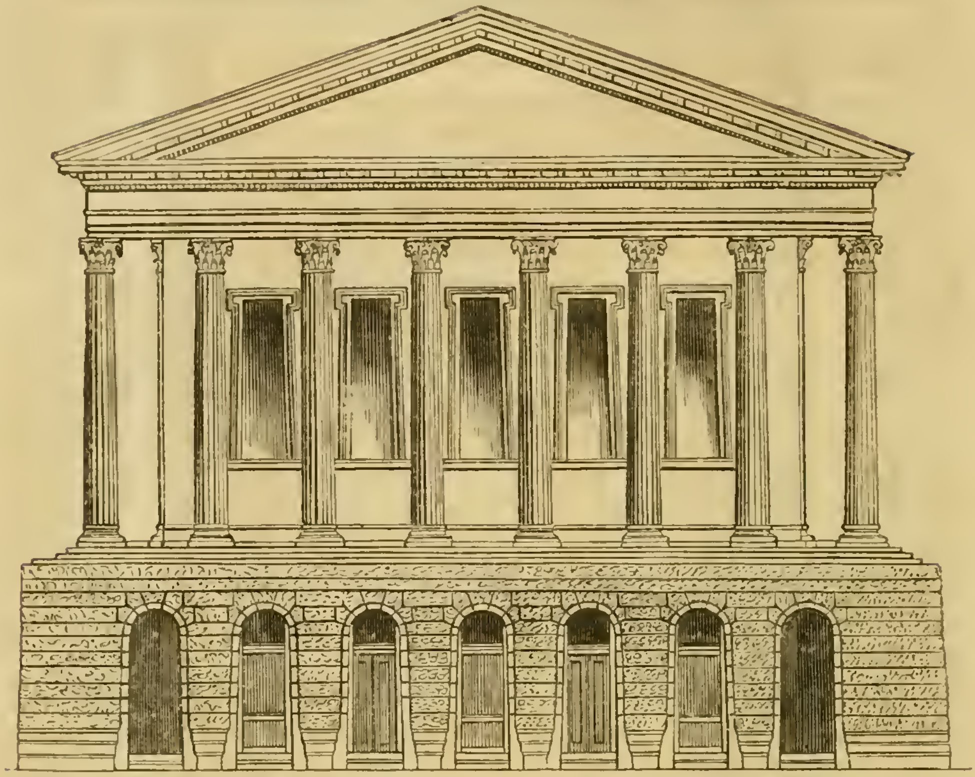

Geometrical Elevation of the End next to Paradise Street.

causeway or footpath, leaving a public arcade at that end within it. This has rather an injurious effect; as the building, in consequence, seems to encroach too much upon the street. In the design originally presented to the committee, which was made by Mr. Hansom, it was proposed to have the side of the temple towards the street, into which the pediment now looks; and that the general plan should form the outline of the letter T, having the temple part merely at one end, and the great room projecting backwards out of its centre: but, in consequence of this arrangement requiring more breadth of ground than the commissioners felt disposed to allow, the plans were returned to the architects, with instructions not to occupy more than a fixed breadth. The architects were, in consequence, forced to adopt the present design of the building; which was one jointly produced by Messrs. Hansom and Welch, two years before, and which was intended for Fishmongers' Hall, London.

The architects, who had been previously employed extensively in Anglesea, having observed the remarkable beauty of the Anglesea marble when worked into buildings, made bold to recommend to the committee the adoption of that stone as being superior to anything known in the country; it absorbing no dirt, but gradually becoming whiter with age; and being also imperishable by time. This recommendation was attended to by

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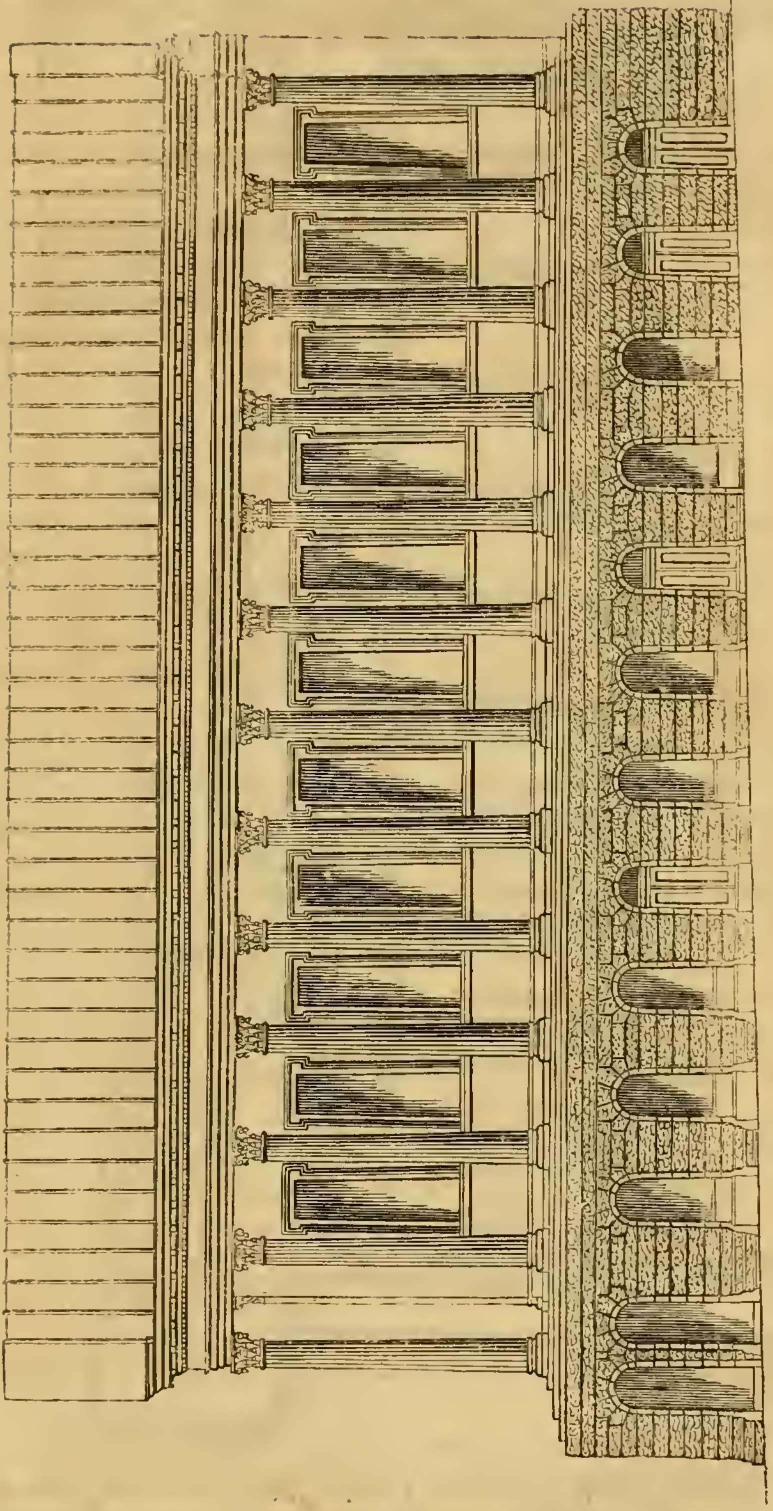

Side Elevation next Congreve Street.

the committee; but its adoption, we are sorry to learn, has involved the architects and their friends in utter ruin.

After the adoption of the designs, contracts were advertised for, and finally agreed upon between the committee and Messrs.

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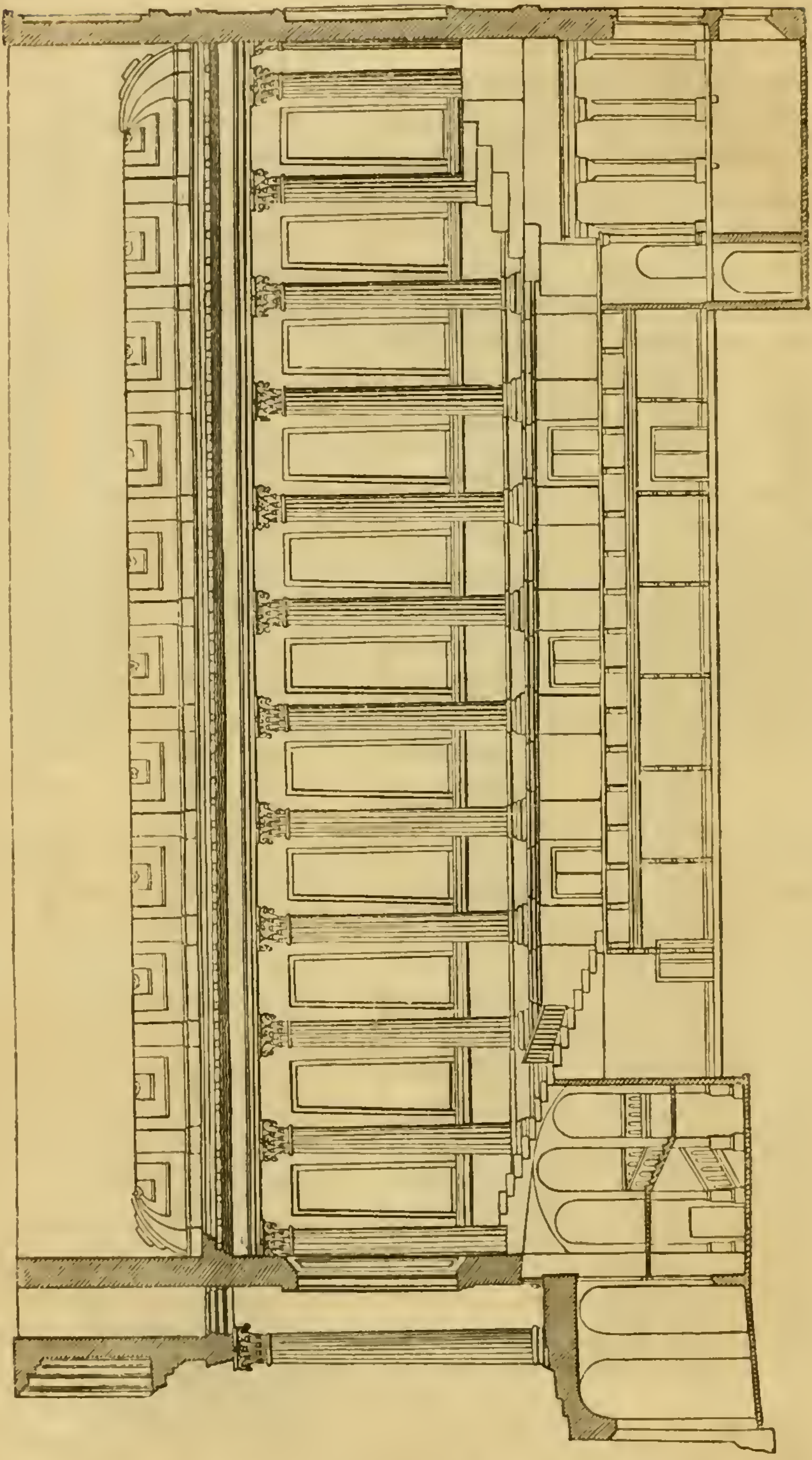

Longitudinal Section through the Hall, &c.

Thomas and Kendall, builders; who had previously been employed by Messrs. Hansom and Welch, and who were introduced to the committee by them. In consequence of the committee feeling doubts of the practicability of the work being executed for the price agreed upon, they compelled the architects to become sureties to the contractors; and thus literally made the architects into contractors also. The architects, upon the assurances which they had received from the ablest workmen they were able to consult, who had been accustomed to work the stone, felt no doubt of the practicability of completing the building for the sum specified; and did not hesitate to enter themselves sureties, as they were required. But, before the work had advanced far, they found that they had been utterly deceived by the men on whom they had depended, as to the obtaining and working of the stone; but they themselves had no retreat, and were compelled to go on with their undertaking, let the consequences be what they might.

The first brick was laid in April, 1832; and the work was carried on, with great spirit and rapidity, almost entirely under the direction of Mr. Hansom, who evinced a mechanical skill rarely equalled, and, perhaps, never excelled. He turned the clay taken from the foundations into bricks: and carried on, at one end of the room, the making, drying, and burning of bricks; while, at the other end, a steam-engine was employed cutting the large blocks of marble into ashlar stones. It was originally intended to case only two sides of the building with the Anglesea stone, and to leave the other two sides of brick and cement; but the architects urged the committee so repeatedly to adopt the stone for the other longitudinal side, that they at last consented, and entered into additional contracts for that purpose. The year was far advanced, and the difficulty and expense of getting the additional stone were so great as to involve the architects and contractors in serious loss; but nothing deterred them from going on courageously and well.

The foundation was a solid hard clay, below which was rock. The foundation walls were begun about 5 ft. 6 in. thick; and were reduced to 3 ft. 9 in. thick at the level of the floor: they were carried up 3 ft. 9 in. thick half way up the building, and then reduced to 3 ft. thickness. The ashlar stone was 6 in. thick, with frequent bond stones. The columns and architrave were solid. Some of the stones, before they left the quarry, weighed more than 100 tons. The quarries are situated on the north side of the Isle of Anglesea; and were inaccessible during the winter months, which occasioned great difficulty and expense. The blocks for the columns were roughly rounded in the quarries, before they were shipped, to render the freightage as little expensive as possible. It was originally intended to have the stone worked in Anglesea, and brought to Birmingham in a finished state; but, in consequence of the parties with whom agreements had been made failing to carry those agreements into effect, the architects were obliged to get the work done under their own eyes, at Birmingham, and almost to educate men for the purpose. The stone is remarkably hard in its

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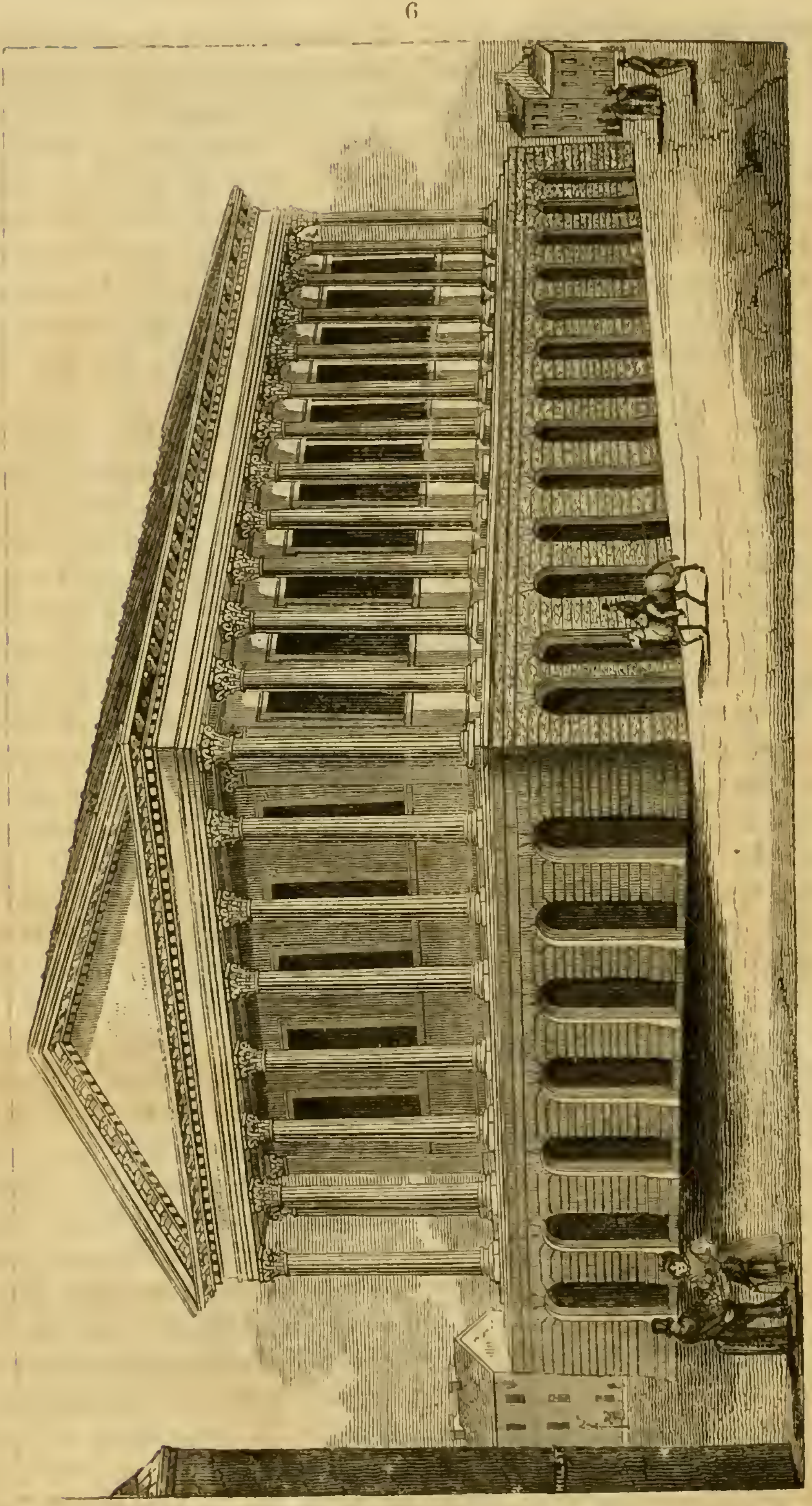

Perspective View of the Building.

nature; but it is capable of being worked into the most beautiful mouldings and foliage: and, when thus worked, it exhibits an effect exceeding anything we have seen.

The principals of the roof were hoisted in a very ingenious manner, in January, 1833. *Fig.* 7. represents a principal in

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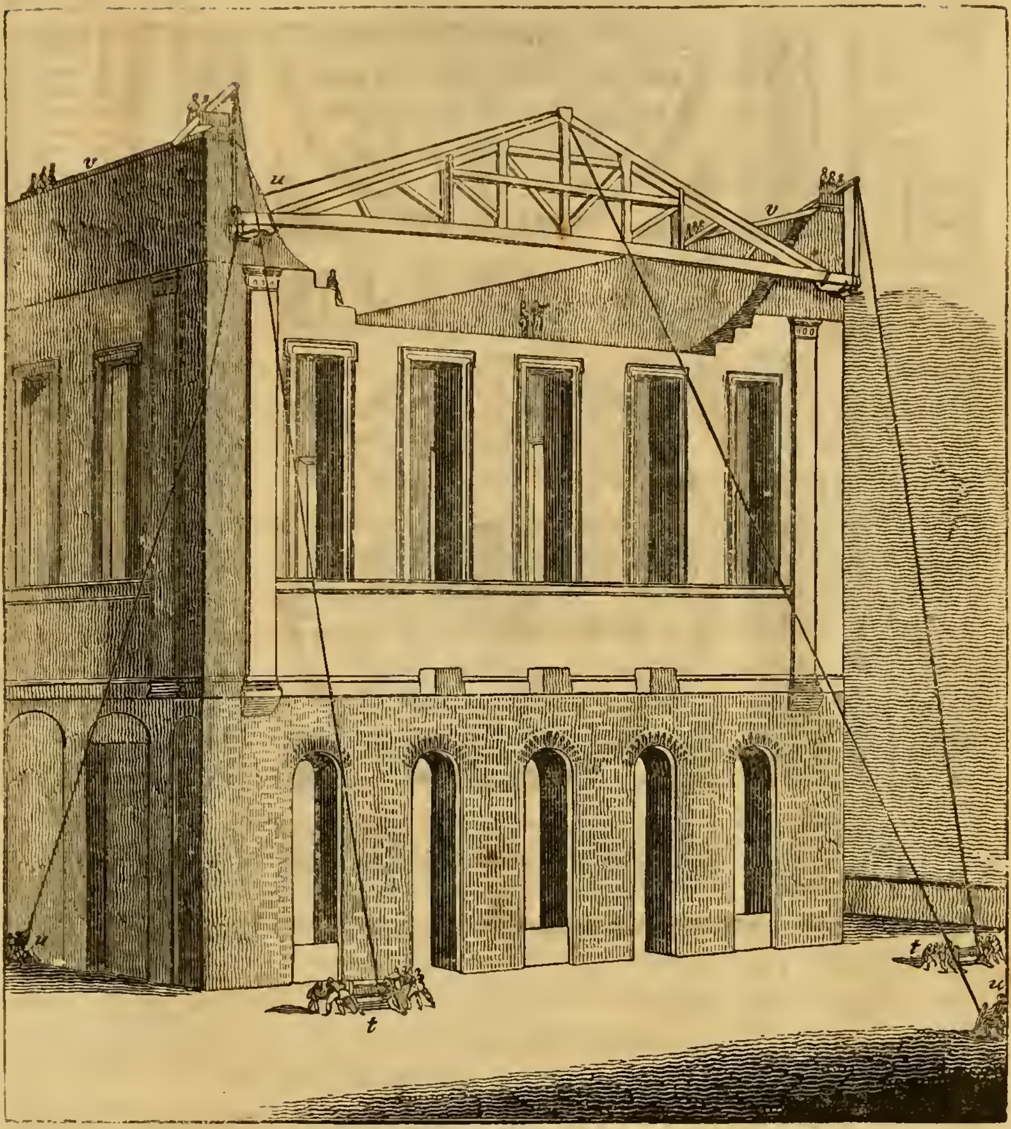

Method of raising the principal Rafters of the Roof.

t t, Ropes which are attached to the ends of the tie-beam, and pass through pulleys, for hoisting one of the rafters; *u u u*, stays for steadying the rafter in its ascent; *v v*, cranes, on rollers, for carrying it along the wall to its proper situation.

the act of going up. This principal is of good construction, and possesses some peculiarities worthy the attention of the scientific reader. During the raising of the principals, an accident occurred by the breaking of the hook of the pulley-block, which in consequence, let fall the principal which was suspended to it, and, by the jerk, threw three men from the top of the walls to the ground, a height of nearly 70 ft. One valuable workman was killed upon the spot, and another died, after being a few weeks in the hospital; the third is now recovered from the effects of his fall, and is a living testimony of the skill of Mr. Alfred Jukes, the surgeon of the Hospital, who attended him.

The interior of the room is beautifully finished in plaster, in the same style as the exterior, having a bold Corinthian pilaster

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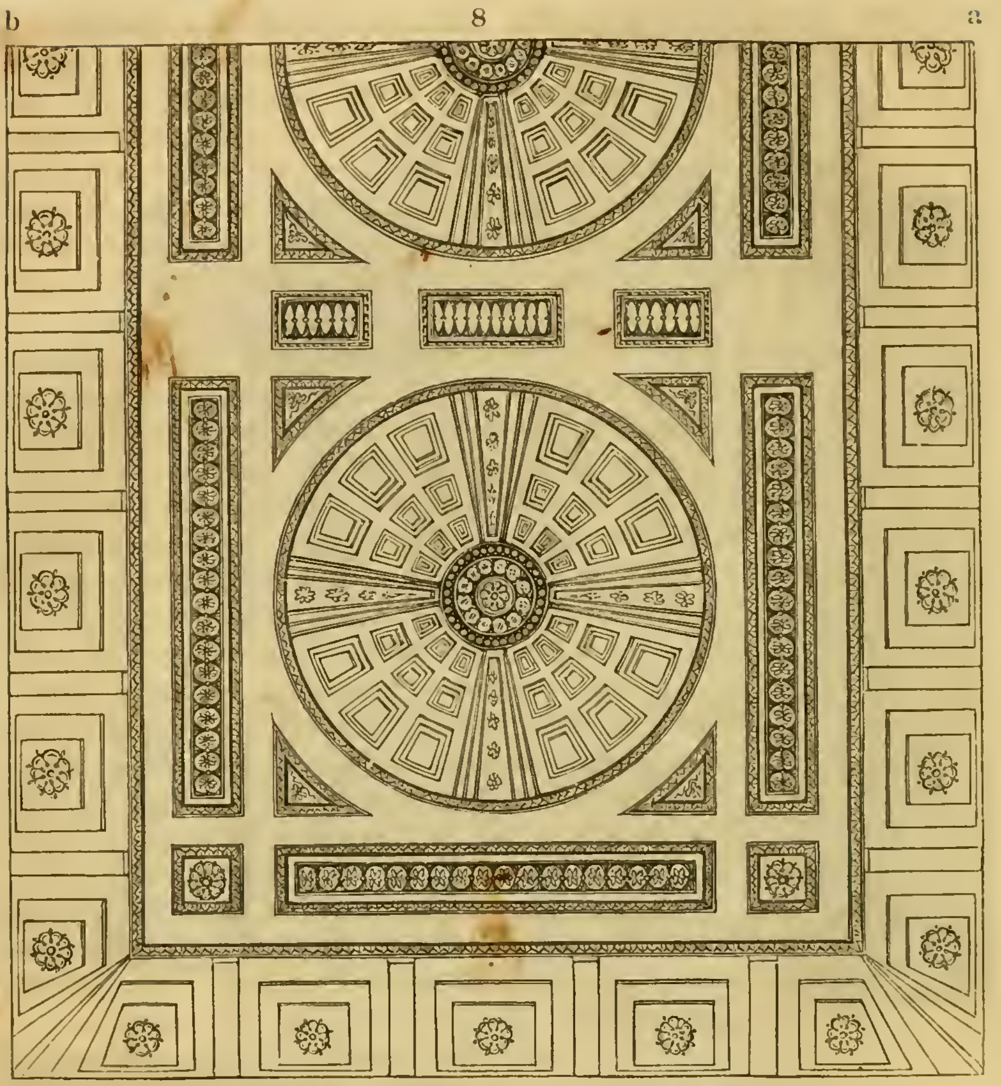

Plan of part of the Ceiling, in which a b *is the centre line.*

between each window. The room has a great gallery (*o*, *fig.* 2.) at the principal entrance end, capable of seating about six hundred people, and small side galleries (*p p*) projecting about 9 ft. from the walls. The other end has a large orchestra (*r*) surmounted by one of the finest organs in the world, built by Mr. Hill (late Elliot and Hill) of London, which will do him lasting credit. The whole accommodation amounts to 3500 persons.

In consequence of the increasing difficulties of the architects, and from their having exhausted all the means they were able to command, without receiving sympathy from any quarter, they were compelled to submit to a bankruptcy in the early part of 1834; and the committee, hoping to benefit by other assistance, called in Mr. Foster of Liverpool, to consult him as to the completion of the work. We are not able to give the reason why Mr. Foster deemed it necessary to offer his own services for the finishing of the work, when he had expressed himself satisfied that it had previously been skilfully and well done, and it will remain

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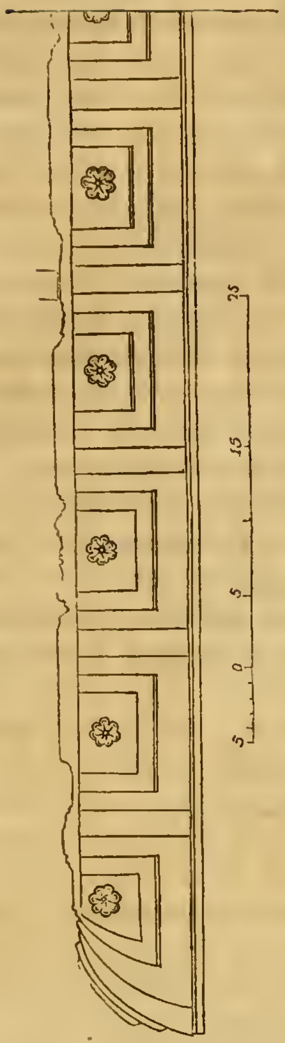


Longitudinal Section of a part of the Ceiling.

a lasting reflection upon that gentleman, that he should have taken advantage of Hansom and Welch's misfortunes, to get himself placed in the position of architect to the Birmingham Town Hall; when, in fact, it was impossible he could fill any other part in that edifice, than that of clerk of the works, to finish the designs already made.

In speaking of the general effect of this building, we should be only repeating what has been said of nearly all the beautiful temples of antiquity. It is a revival of the age of Pericles, and will give permanent renown to its authors, and raise Birmingham high in estimation among the towns of England.

We trust, for the honour of the town, that it will not take permanent possession of the building, without instituting an enquiry into its value, and doing something towards redeeming the position of the parties who have been ruined by it. Hansom and Welch, we are informed, have lost three years of their time, and fourteen hundred pounds of their previously hard-earned money. The family of Mr. Welch is totally ruined, he being involved with one of his friends to the amount of 6000*l*. The building will bear the closest test of examination as to design and execution; and no expression but of applause and satisfaction has been used towards it. We understand it is the intention of the unfortunate sureties to get the building, when it is completed, valued by some eminent architect, whose judgment cannot be called in question, and, on the ground of that valuation, to make a public appeal for assistance out of their difficulties, which, we trust, will receive every just attention; as the only stain upon the building is the ruin of the parties who have erected it.

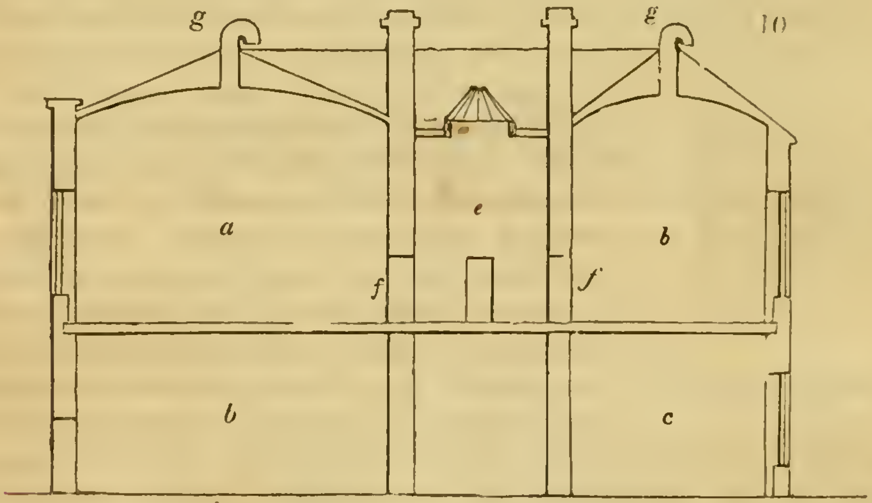
ART. VII. *Observations on some of the Causes of defective Ventilation, and of Smoke in Public Rooms and in Dwelling-Houses.*

By JOHN MILNE, Esq., Architect, Edinburgh.

VENTILATION and the performance of flues depend upon circumstances so similar, and affecting each other so much, that they ought not to be considered separately. The tendency of heated air is as strong to ascend, as that of water is to run in a contrary direction: but, while the latter fluid can be easily prevented from sinking to a lower level, heat will inevitably find its way through the strongest and thickest covering. Water, it is well known, can be made to rise 30 ft. above its level by means of a bent tube, having its under orifice somewhat lower than the fluid to be put in motion; and the siphon will continue to run until the last drop of water has been drained. In like manner, wherever a suite of apartments forms a figure similar to the siphon inverted, the buoyant mass of air in the longest limb must exhaust the air from the lower apartment; and even drag (if the word may be used in that sense) the air from it through rooms or passages far below the level of the room exhausted.

In support of what I have stated, I shall notice the effect produced in two public buildings in this city (Edinburgh). The first is that in the Assembly Rooms in George Street.

Fig. 10. is a cross section of the rooms, sufficiently correct for my purpose. In this sketch, *a* is the principal room for public meetings, and *b* is another room for lectures, &c.; but, when occasion requires, they can be both thrown open to the same company. The roof of *b* is somewhat lower than that of *a*; but the exterior orifices of the ventilators (*g g*) are nearly on a level. When both rooms are in use, and the intervening door is open, the room *a* is not properly ventilated; its warm air descends, and, passing through *f f*, fills the apartment *b* almost to suffocation; while, at the same time, cold air rushes down the ventilating passage in the roof of *a* so violently as to extinguish the lights.



Now, it may be said that there is nothing here in the shape of a siphon; that the rooms are upon the same floor; and that the external openings of their ventilators are nearly, if not exactly, at the same altitude. They are not, however, of equal temperature; and that is an equivalent to a siphon, at least it makes one. The space *c* is occupied as living-rooms and other close apartments; the space *d* is a sale shop, continually open to the air; and it has, also, glass all round. The apartments *a* and *d* also front the north; *b* and *c* the south. In *a* there are, in all, seven windows; and in *b* there are only three: the consequence of this is, that the roof, walls, and floor of *b* are always warmer than those of *a*; and this, acting on the air within, makes it of unequal buoyancy; while the current, being thus set towards *b*, that room receives all the heat generated in *a*; and thus the siphon is made out most effectually.

In order to prevent these evils, it is in the contemplation of the proprietors to conduct the air from the roof of the room *a*, in a tube, to an adjacent flue; and either to carry up this flue to a sufficient height, so as to give buoyancy to the air within it, or else to surround the ventilating tube with the flue of a furnace kept in a garret for the purpose. The former would be the most economical method; and it would require no attention to keep it in action; it would also be, in every other respect, the most advisable alteration, if the neighbours were not to object to the increased height of a chimney top. Either of these arrangements, with the addition of an equalising ventilator, so as to give command over the rate of ventilation, would remove every objection. I may mention, however, that, independent of any alteration in the present mode of ventilating, it would be greatly promoted by allowing a greater flow of cold air into *b*.

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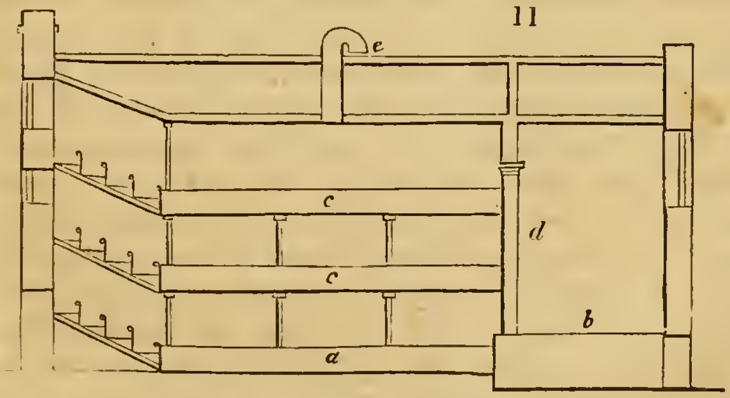


Fig. 11. is a longitudinal section of the Edinburgh Theatre Royal. I have made the sketch merely from recollection, as at this season the house is shut. In this figure, *a* is the pit; *b*, the stage; *c c* are galleries; and *d* the place of the curtain. The end (*b*) of the house fronts the south. The roofs and openings above the stage are much higher than those above the pit. When the curtain is drawn up, the heated air in the theatre rushes into the space above the stage, and thereby causes a partial exhaustion within the lower part of the house, which permits the heavier air without to rush down through the ventilator (*e*), and to extinguish the lights that are immediately below it. Again, whenever the curtain is let down, there is a sensible want of ventilation; because, although, at that time, a slight degree of air may penetrate through the curtain, it is not sufficient; and the only use of the ventilator (*e*) seems to be to blow out the lights. I do not think, however, that the tube of the ventilator, at any time, passed at once from the roof to the ceiling, as in the drawing, but from the roof only; which makes bad worse, as, in that case, the vitiated air becomes cold between the ceiling and the roof previously to its expected exit. At the present time, the ventilators seem to be large openings in the roof in the form of storm-head or garret windows. Indeed, although the worthy manager were to make as many ventilators as his purse could admit of, he would not be able to obtain proper ventilation, unless he carried up the ventilating tube to a height far above every other part of his open house; or else made it the envelope of the flue of a furnace in some one of the chambers near the top of the building. This, with an equalising ventilator, would give him complete control not only over the ventilation of the house, but over the feelings of his audience; and were he to wish, at any time, to increase, at no expense, the effect of his exhibition of the poisoned cup, or the dagger, he could do it nicely by letting down the damper.

We have, in this instance, also, evidently a siphon. The chamber *b* occupies only the middle of the house, with tiers of close apartments on each side; it is therefore naturally warmer than the body of the house, which is also much lower; it thereby causes the current to flow into *b*, and, by increasing its temperature, causes it to draw more strongly. From what has been said, it will be obvious that any attempt to ventilate a bedroom, or any other apartment, by opening a window, is an absurdity; that, even when the apartments are in the upper story of the house, the exit of air must depend upon the force and direction of the wind, and upon the degree of warmth in any other apartment of the house. It will also be discovered that the action of flues does not always depend upon their construction; but upon their situation relative to other apartments, and to their temperature; circumstances over which it is absurd to expect an architect, *à priori*, to have any control.

Taking the Assembly Rooms as an example, let the flues in *a* and *b* be equally well constructed, and the air in the flues kept at an equal degree of buoyancy by equal fires; still the two flues would not act at the same time; for, the air in *a* being exhausted by the rarefying power of *b*, it would also exhaust, and so entirely prevent the action of the flue in *a*.

In conclusion, I hope I may be permitted to state that these subjects, in connection with warming (which, by the way, admits of many improvements, both in point of economy and efficacy), are of such a nature that no prescription for them can be given so as to suit every case. On the contrary, they can only be entrusted with safety to those persons who have made them their study, and are able to suit arrangements to existing circumstances. Architects are not, in general, to be employed: their whole study is only to produce proper effect, strength, and fitness of design.

James's Square, Edinburgh, July 8. 1834.

Art. VIII. *An Account of the Origin and Progress of heating Hot-houses and other Buildings by the Application and Circulation of Hot Water, instead of by Fuel or Steam.* By George Cottam, Esq. F.H.S. Z.S., Associate Member of the Institution of Civil Engineers.

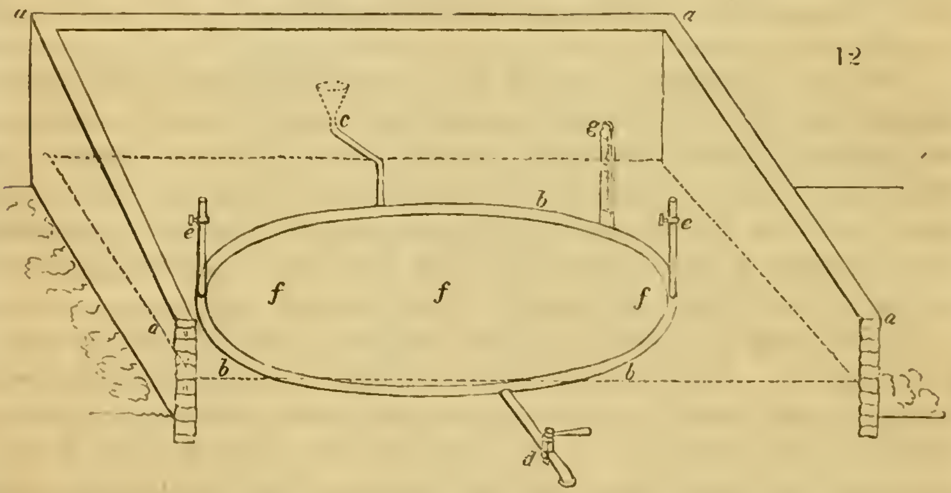
(*Continued from* Vol. I. p. 367.)

The next attempt, in order of date, at heating by hot water, appears to be an apparatus applied to a frame for growing cucumbers, where the required heat was obtained through the medium of hot water, instead of dung. This expedient was resorted to by Mr. Richard Weston of Leicester, who forwarded the following glowing account of the merits of his plan, in 1800, to the *Repertory of Arts*, old series, vol. xiii.

“ Hot dung is often very difficult to be procured, and in many places dear. It is several days before it can be brought to a proper temperature of heat; and the steam from it frequently destroys the plants in a very short time. The heat of a bed often suddenly declines; and the plants suffer before dung can be procured of a proper degree of heat. By forming beds with flues to receive hot water, assistance can instantly be given by only waiting till water can be boiled. The principal use of such a bed is for raising early cucumbers, melons, asparagus, radishes, mushrooms, strawberries, and many other vegetables. It may be applied for forcing roses, hyacinths, and other flowers, early in spring; also for raising tender annual flowers, and for accelerating the growth of the seeds and cuttings of valuable exotic plants. On a larger scale it may be applied for forcing-houses for fruit; also for pines, when you would wish to turn them out of pots and plant them in the earth. Alpine strawberries may be raised in all the winter months, and the other sorts early in spring. One hundred and eighty plants, at 6 in. asunder, may be planted in a frame of 9 ft. long. Its particular merit consists in its enabling you to apply any degree of heat you please to the roots of plants while growing, without disturbing or scorching them. In small gardens it is particularly useful; it avoids the litter and dirt always attending hotbeds made of dung, and will be worth two thirds of its first cost.

"This is calculated for a 9 ft. frame: the pipes will contain about 7 gallons, and only require to be filled for the night: except in case of a cold day, and then it will require to be filled again in the morning. From observation, it is found that the plants grow more in the night, from the admission of the steam, than they do in the daytime, as it acts upon them as a natural warm dew. The flue should be covered with earth, about 8 or 9 in. thick, but at first only that depth near the plants, and then by degrees, all over the bed, as the plants extend themselves. A small thermometer should be placed 6 in. deep in the earth, which will always inform you of the heat of the bed; and it should stand at about 90°.

"*Fig.* 12. shows the plan of a hotbed with a water flue. *a a a a*, A hotbed frame of three lights, 9 ft. long. *b b b*, An oval leaden pipe, 3 in. diameter, to be placed in the centre of the hotbed, and filled with boiling water towards evening. *c*, An upright pipe, 1 in. diameter, to fill the oval pipe. *d*, A pipe, 1 in. diameter, to draw off the water when cold. *e e*, Two pipes placed upright, 1 ft. long each, 2 in. diameter, to let the air out while filling, and to warm the bed with hot steam, when necessary, and with a cock to each. *f f f*, Three cucumber plants under each light. *g*, A thermometer, placed 6 in. in the earth.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"A thin board, 3 in. broad, full of holes, must be laid upon the flues [pipes], to prevent the roots from being burned by touching the leaden pipes."

In the same volume of the *Repertory*, a correspondent at Hampton Court recommends the growing of pines, and gives instructions for building stoves for that purpose, with the following directions for heating them by the circulation of hot water: —

" In building the stove, it will be a great improvement to have a cast-iron stove and boiler placed over the furnace; at least a boiler, to supply a water flue or two, which in spring will be found very convenient for raising cucumbers, melons, strawberries, &c., also a pit for the succession of pine plants."

In a note, a reference is made to Mr. Weston's plan.

Art. IX. *Architectural Maxims.*

The Simplicity which is the result of study and cultivation is the very reverse of the chilling nakedness produced by the absence alone of greater decoration. True simplicity is rather heightened than diminished by attentive finish. Without this latter recommendation, it is apt to degenerate into meanness, in the same manner as mere simplicity of language, unaided by good taste, is apt to fall into slovenliness on the one hand, or childish silliness on the other. — *Leeds.*

Unity of Composition. — Whatever mode of composition is adopted in any part of a building ought to be continued throughout, not only the elevation, but the interior. For example, when the windows have architraves or facings in the more conspicuous parts, facings of some sort ought not to be omitted in any other part of the elevation, even in those which are comparatively obscure. Also, when arched windows or other openings, prevail in one side of a building, they ought to predominate in every other side. The first of these maxims is sinned against in the new Goldsmiths' Hall, where the most elaborate architraves are applied to the windows in one front, and none at all to several of the windows in the other. The second is equally sinned against in the General Post Office; all the openings of which, in the grand entrance front, are square-headed, while many of those in the back front are arched. Where arches are employed to cover openings in a building, keystones, projecting and ornamented, so as to form conspicuous features, ought not to be employed in one part, and not in another, unless for some very obvious reason.

Chimney Shafts. — It is neither absolutely necessary always to show, nor to ornament chimney shafts in a dwelling; but, when they are shown, consistency, and the necessity of unity and force of expression, require that they should be shown conspicuously, and ornamented throughout; and that, when they are concealed, they should be concealed entirely.

Extraordinary Effects in buildings, as in landscape scenery, and in every other department of the fine arts, are beyond the reach of rules.

REVIEWS.

ART. I. *Beytrage zur Æsthetik der Baukunst, &c.* Von J. H. Wolff. Æsthetics of Architecture, &c. Gr. 8vo, mit 28 kupfertafeln. Leipzig, 1834.

A WORK like the present, substituting liberal enquiry for pedantic superstition, and sound criticism and reasoning for blind and indiscriminate admiration, has long been wanted. The volume is, it appears, intended as the precursor of another treatise, in which the same analytical investigation will be applied to different styles; consequently, the author here confines himself to the examination of Grecian architecture. The scope of his enquiries is excellent; nor is the publication itself by any means ill-timed, there being evidently a disposition abroad to abjure many points of doctrine hitherto regarded as both irrefragable and satisfactory, and to adopt more enlightened views. Up to the present time, as the author himself remarks, scarcely any attempt has been made to elucidate, consistently and at length, the *principles* and real *æsthetic motives* of ancient architecture, by clearly showing how the whole of it has been developed in perfect accordance with them: even allowing that such accordance might occasionally be unpremeditated, the result of coincidence rather than intention, or, at any rate, arising from intuitive taste rather than calculating forethought.

While others have contented themselves with pointing out tolerably obvious beauties and analogies, or have not so much laid open, as insisted upon, the merits they ascribe to Grecian architecture, Professor Wolff has endeavoured to penetrate into its very arcana, its innermost spirit, to reveal all the more latent, yet not, on that account, less influential, causes of its harmony and grace.

Until these are investigated and understood, until we have ascertained not the *rules* but the *principles* which directed the Greeks, in vain do we strive even to approach them. We may copy, but we cannot imitate, them; we may produce, mechanically, a likeness as to particular parts, yet it will be one devoid of feeling, intelligence, vitality. Neither have we any clew whereby we may guide ourselves a single step farther, in the same direction, where the positive authority of antiquity fails us. With very few exceptions, the great and inherent vice of modern "Classical" architecture has been, that we are content to produce mere compilations of detached beauties, scarcely ever consistently with the true character of the style professedly aimed at; and, not unfrequently, so as to form the most heterogeneous combinations.

There is much instructive and ingenious reasoning in M.

Wolff's book; with, occasionally, some that is likely to be deemed, in this country at least, too refined and speculative; yet which, nevertheless, tends to bring out many occult points highly deserving consideration. Among them we may instance what certainly never struck us before, and what he assumes to be a law governing intercolumniation; according to which, a series of columns was made to exhibit a succession of squares or intervals blended together. Without the accompanying plate, we cannot hope to explain this very intelligibly; yet may remark that this system gives the height of the column as the measure from the axis of one column to that of some other. For instance, supposing the fourth column to be placed at that interval from the first that produces the first square; the second and fifth, the second square; the third and sixth, the third square; and so on. Or, should the intercolumns be desired narrower, the first and fifth, the second and sixth columns, must have their centres as wide apart as the columns are high.

In opposition to Vitruvius and Vitruvianists, the professor contends strongly (we might say, proves) that the forms of Greek architecture are derived from constructions in stone, not in timber; which latter, he convinces us, must have led to very different modifications, and altogether another system.

Beyond giving this slight indication as to its subject and contents, we cannot now continue our remarks on Professor Wolff's book. Were we to attempt any more, we should certainly be seduced into writing a longer article than could be admitted into the present Number. We are of opinion, however, that we have said quite sufficient to show the important object the writer has in view, and how exceedingly valuable an addition his volume is to what we already possess in architectural criticism. It is not a mere elementary work, but one to be perused, or, we ought rather to say, carefully studied, by those who are already tolerably conversant with the mere *matériel* of Grecian architecture. At the same time, it is calculated to prove essentially beneficial even to mere beginners, if taken up as an auxiliary to their other studies; because it will prevent their imbibing errors, afterwards to be discarded; and because, while it will serve to impart a higher relish to what they learn, it cannot fail to produce most useful habits of rational enquiry and investigation. This scanty notice of it will suffice to call the attention of those to the book who can peruse it in the original; and, should we have reason to think that a farther account of it would be acceptable to those who cannot, we may probably return to it, and give some translated extracts from it.

Art. II. *Of the Resources of Design in the Architecture of Greece, Egypt, and other Countries, obtained by the Studies of the Architects of those Countries from Nature.* By H. W. Inwood, F.S.A., Author of a Treatise on the Erechtheion at Athens, and on Fragments of Athenian Architecture, &c.; Architect, jointly with W. Inwood, sen., to St. Pancras church, Camden, Regent Square, and Somers chapels. 4to, 12 pages, 3 plates. London, Williams, 1834.

This work deserves to be favourably received by all philosophical architects; because, whatever may be the merit of the author's hypothesis, he has ventured to think for himself, and to recommend to others the study of nature in conjunction with that of the remains of classical antiquity. He might have brought forward his ideas with much greater force and effect, had he been a greater master of language, and capable of placing himself in the situation of those who know little of art. Without either assenting to, or dissenting from, his suggestions that the flutings of Doric columns were taken from reeds, mineral crystallisations, or marine shells; or that the mummies of Egypt were wrapped up in imitation of the cocoons of moths, we may be allowed to say that he has not brought forward his hypothesis in such a manner as to invite the reader to become a convert to it. However, we accept it with friendly feelings; and, to do Mr. Inwood justice, we shall quote a few of his introductory paragraphs: —

"We cannot contemplate with too high an admiration the beautiful productions of the ancient architects of Athens and the states surrounding: and, possibly, we might aspire to elevate ourselves to the same high intellectual perfection, by zealously emulating to discover, and to pursue, the course of study by which those architects advanced.

"The architect of those periods, it may readily be inferred, had one path, that led, at least with certainty, and probably with little difficulty, to excellence. His first preparatory steps were assuredly to pass in regular order, and to obtain complete knowledge of whatever valuable acquisitions in taste and genius human intellect had carefully and selectly stored, and arrived at, in the formation of Greek architecture up to his own time; he became then prepared to enter on the science of obtaining further perfection, by his own researches, at the highest resource of art then opening to his view; which the several productions of nature, in all ages, presented and displayed, not only to the ancient architects throughout Greece, but occasionally to those of other countries.

"Although those resources forming the means of perfecting the study and science of architecture lay to us through a new and unexplored territory, it soon evinces itself (taking either of the pure examples of architecture, as of a temple of Athens or Eleusis, &c.) that the minerals in the rock on which it stands, gave its architect a type for its cubical and geometrical details; the shore nearest adjoining produced shells, of beautifully varied carving, that gave the embellishments of the shafts of the columns, of the capitals, and of the roofs. The plants on all sides surrounding, the rose, the acanthus, the honeysuckle, the lily, the olive, the vine, and the ivy, gave details of its enrichments; so that it stood in beautiful harmony with the surrounding scenery: not at variance with the ever-admirable designs of nature's embellishments, but formed as to be united in one harmonious series with them.

"An instance, tending to exemplify this, occurred to myself. While landing in Greece, perceiving groups of the echinus on the little projections of rocks on the shore of the Corinthian Gulf, the sea just covering them, the shore, at the same time with containing these living examples, a little further distant in the same view presented their representation in stone, in the bold echinuses of the capitals of the very ancient Doric example of Corinth; those of Athens, and other examples, being carved from beautiful varieties of the same. To other examples of shells I could collect in Athens, and different parts of Greece, the resemblance was complete in different details of the Erechtheion, the Parthenon, and other examples. The cliffs, the mines, and quarries, while obtaining the precious metals, jewels, and varied marbles, open to view the geometrical forms and beauty of the mineral kingdom: which are, however, on some occasions, self-evident, without research; as I observed extending over a considerable surface, and skirting the pathway of our mules in travelling from Megara towards Delphi, an interesting display of mineralogy, emanating from, and decorating, the exterior of its native rock, in the usual hexagonal but large and fine quartz crystals, glistening, and reflecting a dazzling intense light from the sun: a beautiful example of geometrical form, as adopted in the hexagonal altar at Delos.

"But the philosopher and the accomplished artist of ancient Greece would not select his type for study from limited nature, as only immediately surrounding him; but, expanding his resources throughout all the countries bordering on the Adriatic, the Black, the Mediterranean, the Red Sea, and the ocean, would combine into one view a rich store, to enable him to add such other varieties of those examples that had been selected in the productions of Asiatic and European Greece, as to render his own works of art a varied and beautiful series, in accordance to the more complete and varied series of examples a more extensive view of creation presented to his knowledge.

"In opening to the volume of nature's designs, to develope the resources of study of the ancient architects of Greece and the surrounding countries, we trace the different sciences comprehending the natural history of those countries as yet have been but partially investigated, and even must remain, in a measure, lost and unknown to us; for how could the botanist and entomologist of the present day, from the plants, flowers, and insects they would now find in the too frequently barren and deserted wastes, declare the beautiful varieties that all those delightful climates and countries produced, when in their highest cultivation? or the mineralogist, from the mines he now sees there everywhere deserted, what interesting specimens, at the periods of those nations flourishing, were obtained? Perhaps, the most irretrievable branch of the Grecian science of natural history is that of the mineral kingdom. We are, perhaps, never again likely to explore the veins of minerals in the precise same spots that they did; and the same may also be considered of the fossil kingdom, the interesting specimens of the different strata they may everywhere have discovered are to us almost unknown. Nor can the conchologist better decide on that branch of natural history, the specimens that, in time of research, were everywhere collected, when all those nations cultivated and encouraged, for their own consumption and manufactures, and for commerce, the shelly produce of their seas and rivers.

"We need not, however, only seek to cultivate a knowledge of the studies of the ancient architects of those nations, by placing their works in comparison only with those everywhere surrounding them in nature, throughout every locality they could have access to: as, even on cursory observation, we perceive the harmonious similitude of nature's productions, between those in one locality and those in another.

"And it must be to us a clear inference, and produces a convincing and unerring guide at the present day, that, wherever we perceive a representation of any plant, or of any maritime or mineral production, now known to us, among the sculpture of the Greek ornaments, that it was certainly a production of nature they were acquainted with, and which aided them in deriving their science. And these representations of sculptured embellishments we find, as we proceed, throughout the far greater number of their works, in design of flutings, of carving, and of every component part of architecture, are so precisely the designs that nature, in various examples and localities, present to our view at the present day, as would permit our inferring that those we have could be the precisely similar specimens to those they possessed. In all such remaining instances where the prototypes that our knowledge of nature's productions present to us are a close but not a perfect similitude, we might, from such reason of similitude, infer that they had other varieties of the same, that presented to them prototypes nearer in design to their works than those at present known to us.

"Thus, by a careful investigation of every ancient production of embellishment of architecture in Greece, and even in comparative instances of Egypt and other countries, and taking the whole range of the beautiful productions throughout nature we are acquainted with, we should be enabled to discover and to select all the prototypes in unison with which the numerous and variedly beautiful examples of design in architecture were produced. Their course of study may, possibly, by these means, become ours; and we might, then, emulate to produce other and equal varieties of design to the architects of those periods whose works so justly merit our wonder and admiration as the noblest refinements of human genius and taste."

Plate 1. contains outline plans and elevations of the shafts of Doric columns. The first of these is three-sided, and is supposed to be an imitation of the "angulated reed;" by which, we suppose, is meant the flower stem of the papyrus. Other examples, of from four to twenty flutings, are all supposed to be from the genus of shells named Dentalium. A few words are given on each of the flutings; and, of the twenty-first, it is observed, that "those dentalia whose shafts are plain, and are fluted only near the top; the number of the flutings in one fossil species is twelve, in the common recent species they appear to exceed thirty flutings."

Plate 2. "Of the flutings of Doric columns. Several types of Doric fluting are given; in others, specimens of shells, that do not in themselves take the form of a column, as the dentalia."

Vignette 1. "Of Egyptian obelisks and pyramids.

"Occasional comparative evidences, in vignette plates, we will select of those works of other ancient nations that appear as a part also of the designs given in nature.

"The upper division in the vignette is of various different crystals that are of the obelisk form; combining the several varieties together in one view, as also in one plate together, in place of representing, in separate plates and views, clusters of each.

"The two first, on the right hand of the view, are mesolite or needlestone; the acicular crystals of which are in long slender prisms, terminated by small quadrilateral pyramids, of a colourless shining lustre: they are often of much taller proportion of height, the shorter prisms having been selected for the present illustration. And mesotype, whose beautiful crystals are in several instances of larger diameter, present the same obelisk form.

"The four last, on the left-hand side of the vignette, are lievrite. In the specimen of lievrite, the nearest to the right, the crystals are opake, nearly black, and most brilliant; they are acicular, the same dimension as the plate, with a small pyramidal apex, and slight indications of lines as fasciæ on the sides. This requires no other comment than to say that it is a most perfect miniature type of the polished black marble obelisk of the Egyptians. The one next adjoining is a larger specimen: these are usually the most beautifully enriched by fillets and mouldings down each of the fronts, and of the slightest relief. The two outer instances are rhomboidal obelisks, with little variations in their termination. The first described example of lievrite is represented rising from three other crystals; in the specimen in my own cabinet of this, the crystals are everywhere dispersed over the portion of bed of their native rock: some lying along in every possible direction, and some seeming to be half raised, while others are entirely elevated on their base; in other instances, two are disposed horizontally, one over another (in imperfect crystals), like steps; while a third, in a perpendicular position, is emanating above them; which is itself again interrupted in its formation by the perfect crystal over it. Various other instances, on the same specimen, occur of one obelisk rising on horizontal and vertical portions of others under it; and some as if on one step, some on two; but a similar indefinite arrangement of crystals occurs in most specimens of crystallised minerals.

" The seven remaining crystals in the centre of the plate are of the oxide of tin: a part of these are somewhat increased in their proportion of height, to place them in better comparison with the other specimens. Some are of a reddish brown, and translucent; and others black and opake. The common form of the crystals, as that of the crystals of zircon, is a quadrangular prism, terminated by four-sided pyramids. In one, the angles of the pyramid join over the centre of the sides of the obelisk; in another, the apex is terminated by an acute pyramid; in others, the acute pyramid takes a compound form of one pyramid rising on the lower part of another. The crystals of this mineral take, also, the form of the cube, its acicular crystals giving the obelisk and the cubical its plinth.

" The lower division in the vignette is of various different crystals, of the form of the pyramid, placing their several varieties of design into one view.

" The first small pyramid, on the right hand, is what is commonly called the dog's-tooth crystal; of carbonate of lime, of a yellowish alabastry appearance. It forms a pyramid of triangular base; each side of the pyramid is beautifully embellished by projecting surfaces. These are formed by other crystals, of the same triangular form, just emanating one before another, and lessening in exact proportion as to leave the most projecting one in the centre, the smallest, in the manner of a panel raised with different fasciæ, receding one from another, as a frame round it."

Vignette 2. " Of Egyptian sarcophagi and mummies; and of the symbols of Egyptian divinities."

" The same research to nature as would deduce from its resorces the geometrical forms of the pyramids, and of the obelisks, and, with the same facility, every other geometrical figure that could be formed, would lead the Egyptian philosophers and artists to study, in the same source, for the sarcophagus and the mummies that the pyramids were to enclose. And it would require not much philosophical reflection to observe that the chrysalis of the insect kingdom seemed a state between one existence and another: and, by wishing to apply so beautiful a type to their own being, produced the prototype for converting, by bandages and painted decorations, the human body, as to resemble a pupa or chrysalis; under an impression of its awaiting, in that chrysali state, its period of entering and rising to another existence.

The upper division of the vignette is of the mummies of such insects as the human Egyptian mummy bears the nearest resemblance to. The centre is a large foreign specimen of the genus cossus: it presents the effect of some of the most distinguishing features of the Egyptian mummy, the hood continuing down, enveloping the upper part of the figure; and which, in the example, has a beautifully defined ornament of fluting, as most of the Egyptian mummies have. At the lower part of the centre specimen of the vignette, on the right, in a horizontal position, is another cossus, the species ligniperda. The larva of this moth, when it instinctively feels that it is about to prepare for another existence, most admirably, in mechanical art, carves out its small cylindrical sepulchral chamber, often in the trunk of the willow; it then prepares its strong casing, laying within its cell, and undergoes the process of its form to a mummy. A close similitude between art and nature thus presents itself in the columbariæ scooped in the rocks for the human mummies: the one of the insect in wood, the other in stone; and each containing its mummy. I found an instance of one of these columbariæ of the cossus, carved in the trunk of a willow, in a horizontal position, as in the plate; the head end of the casing of the pupa nicely adjusting itself to the entrance, and, in withdrawing it from its cell, leaving it tenantless: and, possessing myself of the specimen, I felt, more fully than I can describe, the force of the similitude, aided by the surprising resemblance to the human countenance of its features."

After several other paragraphs, the author concludes thus: —

" And, lastly, the entire front of the sphinx of the Egyptians seems to bear a surprising similitude to the small beautifully painted and silvered chrysalis of the Cynthia cardui. The last on the left hand of the vignette, in the face, the crowning of the head, the hood descending, and the junction of the head with the chest, as to render it a complete type of all those characteristic features that distinguish that famed and favourite example of Egyptian transformation, the sphinx."

We hope these quotations will induce the young architect to purchase the work, to examine the theory for himself, in connection with the plates.

Art. III. *Ornaments, drawn from Examples executed in the improved Papier Mâché, by Charles F. Bielefield, Modeller,* 18. *New Road, Fitzroy Square, London; comprising Centre Flowers for Ceilings and Ventilators, Room and Window Cornices, Glass Frames, Mouldings, Brackets, Capitals for Columns, and Pilasters, Panels and Cornices for Walls and Ceilings, and various other Descriptions of Decorations.* By C. F. Bielefield. 4to. London, Williams, 1834.

It is not, we believe, generally known, that many of the architectural ornaments, and even some of the members of architecture, both in public and private buildings, and in furniture, are executed entirely in papier mâché. This manufacture has recently been carried to an extraordinary degree of perfection, by the ingenious artist who has published this work; nor can we sufficiently express our admiration of his talents, or our satisfaction at the idea, that his works will be the means of inducing the most important improvements in interior architecture and furniture.

Many of our readers have seen the beautiful interior of the Pantheon Bazaar, Oxford Street, but few of them are perhaps aware that all the sculptured ornaments in that interior, including the rich cornices and entablatures, the consol and cantaliver projections, and all the alto and basso relievos are of papier mâché, by Mr. Charles Bielefield. We believe the same may be said of all the principal ornaments in our theatres. In the interior finishing of houses, there is no other material in which the mouldings, cornices, and ornaments of the Gothic style, or the style of Louis XIV., can be executed at so little expense. We have lately had the pleasure of seeing this artist's atelier, where we found him modelling the royal arms, which are to be placed, in papier mâché, over the Speaker's chair in the new House of Commons. He is also preparing the ornaments which are to cover the openings for ventilation in the ceiling of that building; and all the Gothic mouldings, cornices, foliage, crockets, and pendants, which are to be employed on the walls and ceiling of the House of Lords, are now executing by him in the same material.

" To say, that, in this beautiful material, every subject may be readily produced which has been hitherto made in plaster or putty composition, would be very inadequately explaining its capabilities; for, not only can the artist in papier mâché infinitely surpass in boldness and relief works executed in those materials; but he can fully equal, in shapeliness and effect, the most elaborate wood carvings.

Of the durability of papier mâché, ample testimony is afforded by the surprising soundness of many of the old ceilings, &c., which, more than two centries ago, our ancestors were accustomed to work in this description of material; whilst the many important improvements which the present manufacturer has introduced, both in its composition and manipulation, have greatly increased its solidity and strength; giving it, at the same time, a far higher degree of finish and delicacy than was formerly practicable.

It is necessary to add, that ornaments may be executed in papier mâché at the same price as in plaster; and are consequently considerably cheaper than similar works in composition. When, in addition to the advantages above detailed, it is considered that this material is extremely light, and may be fastened, with the utmost facility and despatch, to wood or plaster, by brads, needle points, glue, &c.; that it requires but little preparation for gilding, and admits of being painted immediately it is fixed; the practical man will have no difficulty in perceiving the advantages it offers; enabling the architect or decorator to undertake the execution of every description of interior embellishments, within an incredibly short space of time.

That the reader may be satisfied that these statements are not overcharged, the manufacturer begs to refer to a public work, of considerable extent, which he has recently executed. The whole of the enrichments at the Pantheon, in Oxford Street (unquestionably one of the most decorated buildings in London), are of papier mâché. Without any previous notice or preparation, Mr. Bielefeld was called upon by the architect to furnish all these enrichments; and the whole were accordingly modelled, executed, fixed up, and painted, within about four months, during the depth of winter. It should be added, that the building itself was raised with almost equal rapidity; there was, of course, an immense quantity of moisture in the walls and ceilings, which could only be dispelled by a degree of artificial heat, that would have proved the destruction of enrichments executed in any other material whatever.

The manufacturer has only to add, that the machinery he was required to prepare for the above-mentioned work, and the experience he acquired in combating with the difficulties he encountered on that occasion, enable him now to undertake with confidence orders of any extent, within almost any prescribed time; and he is willing to execute models in every description of style and character, either from drawings furnished for his guidance, or from his own designs, without any extra charge." (*Preface.*)

Art. IV. *The London Upholsterer's Companion; containing the most approved and Modern Methods for the various Styles of Manufacturing, including the Art of Spring Stuffing, with all its late Improvements, &c. &c.* By John Saville Crofton, Practical Upholsterer; from Messrs. Seddon, Morell, and Seddon, Upholsterers to the King. 4to, 89 pages, 13 coloured plates. London, Williams, 1834.

In the preface, the author takes occasion to state how much the upholstery business is indebted to the patronage it received from George IV. and the nobility of his time, owing to the continually varying taste and fancy of the connoisseurs of that day. In many of the larger mansions, he says, the changes in the fittings up, and furniture, were of frequent occurrence; and the taste and fancy of the owner required to be gratified every time they were changed. According to Quatremère de Quincy, both in his *Dictionnaire d'Architecture*, and in his introduction to the work of Messrs. Perrier and Fontaine on furniture, this craving for change is much more likely to corrupt public taste, than to improve it. Mr. Crofton seems to be of the same opinion; for he laments the want of such books of instruction, in regard to the principles of design in furniture, as will enable the beginner to form his taste in such a manner, as that he may produce, when required, something new, without at the same time exhibiting something absurd.

> "It cannot be," he says, "that we have not had men capable of the task; for we have had, and at the present day have, men of the first eminence in this branch of trade—men perfectly capable of giving to the world the most valuable information and instructions; yet, true it is, that a manual of this description does not exist, although the want of it has always been severely felt by young men on their entrance into this branch of business, but by none of them more than by the author of this work, who has, consequently, been indebted solely to hard labour, and a careful and anxious attention to, and observation of, the best workmen during their work, for the knowledge he has attained; in which, certainly, he has been assisted by having had the good fortune to be employed in some of the first and most eminent houses of business in London, and by the heads and principal conductors of those houses at the royal palaces, and the mansions of the highest nobility and most influential of the gentry.
>
> "It was this inconvenience, aided by the regret which the author felt at seeing the disadvantages which his young friends laboured under from the want of a practical work that could be relied on, which produced in his mind a conviction that such a work would be a valuable desideratum in the trade; and hence it was that he was induced, coupled with the solicitations of many kind friends, to intrude himself upon the public, and submit to their judgment the result of his experience.
>
> "The methods and styles of workmanship which form the subjects of this work, have been laid down after the modes adopted by the first houses in the trade, as the most modern and approved, and hence their claim to attention: but, as what is the fashion of to-day may not be that of the morrow, the character of an upholsterer, as a man of business, requires that he should have fertile powers of invention, with equal taste in the application of those powers." (*Introd.* p. x.)

The work is divided into six parts: viz. I. Round-stuffed chairs, dining and drawing room chairs, pillow-stuffed and French-stuffed chairs. II. Easy chairs spring-stuffed, the gondola chair, the Montague chair, and pipe-stuffed chairs. III. Round-stuffed sofas, pillow-stuffed sofas, and spring-stuffed sofas. IV. Manner of making Turkish ottomans. V. Spring-stuffed mattresses, spring beds, spring pillows, carriage seats, and spring cushions, and utility of upholsterers making their own springs. VI. The Upholsterers' Ready Reckoner, and explanation of the scales for cutting and measuring draperies.

Our readers will see from this table, how valuable the work must be to practical men. The engravings are very well executed and coloured; and the work, taking it altogether, is well got up. It is published, we understand, for the benefit of the author's widow and children, he having died suddenly just as it was finished printing; and we sincerely hope that it will meet with that encouragement to which it is so justly entitled.

We have described the mode of spring stuffing, in our *Encyc. of Cott. Arch.*, § 665. and fig. 704.; but we were not then aware of there being such a thing as pipe stuffing. This appears to be chiefly used for the chairs of hall porters. The mode of operation is described at length, p. 36.; but it will be sufficient, in order to give our readers a general idea of it, to state that it consists in putting the stuffing into vertical semicylindrical tubes of leather, which, when completed, give the inside of the chair a fluted appearance, like that of the front of an organ, or the back of Moser's fireplace (*Encyc. of Cott. Arch.*, fig. 1843.), but on a larger scale; the flutes or side pipes being three on each side of the chair, and five in the back. The chair given in illustration of this mode of stuffing, is said to be "an article rapidly coming into fashion with the nobility and gentry, for the use, as well as the comfort, of their hall porters, for which it is well calculated. On closely examining this chair, it will be found to be a complete piece of furniture for the purposes intended; it being understood that the duties of hall porters oblige them generally both to sleep and take their meals in the hall. To meet these exigencies, a convenient cupboard is contrived under the seat (as seen in the engraving), which will be found large enough to contain every thing usually necessary, or that can reasonably be requisite, both for the support and the comfort of this domestic. There is no piece of workmanship that requires more neatness in the stuffing and finishing, than the chair we are now speaking of, and to which the young upholsterer's attention is solicited." (p. 36.)

MISCELLANEOUS INTELLIGENCE.

ART. I. *Domestic Notices.*

ENGLAND.

The Houses of Parliament are reconstructing temporarily on the same spot as they were before. The House of Lords is to occupy what before was the Painted Chamber; and the House of Commons is to be in what was the House of Lords. The walls of both chambers being entire, there are only the roofs to construct, and the interiors to finish. The work is proceeding so rapidly under the direction of Sir Robert Smirke, that there can be no doubt of its being completed by the time Parliament meets. We have elsewhere (p. 41.) noticed the papier mâché ornaments and mouldings, preparing for both houses by Mr. Bielefeld.

Keys of German Silver. — A friend of ours, Mr. Dundee of Wolverhampton, has applied a composition known as German silver, to the casting of ornamental keys. He has shown that the most beautiful Gothic patterns of keys may thus be produced, at less expense than they could be in steel, and also of a more beautiful lustre. It is supposed by some of the London upholsterers, that this application of the metal may be rendered available, not only for keys, but for many other articles in Gothic furniture, and in the style of Louis XIV., now coming into such general use.

A new description of Cooking Range has been invented by Mr. Weekes, of the Horticultural Repository, King's Road, Chelsea. It is founded on his mode of circulating hot water for the purpose of heating hot-houses and other buildings. The water is heated in pipes which pass through the body of the fire, and communicate with cisterns on each side of it, so as to cause the water in these cisterns to boil. In the cisterns are placed tin vessels containing water, which is also made to boil, by the tin vessels being in contact with the boiling water in the iron cisterns. Over the fire, and at a foot or more above it, when extensive culinary operations are required, is placed an iron plate containing basins with water, and in these are put tin vessels, either for the purpose of boiling or stewing. The advantages offered by this plan are two: first, the heat may be extended to almost any distance on each side of the fire, and at a boiling temperature; and secondly, the heat, whether over the fire, or at any distance from it, can never exceed the boiling point. For kitchens where cooking is carried on on a large scale, by means of stewing pans and hot hearths, this plan promises considerable advantages as a substitute for those means. We saw it in operation, when Mr. Gunter, the celebrated confectioner, and some eminent cooks were present, on the 7th of December.

Cornwall. — *A new Guildhall and Market Place* are about to be erected at Helston in Cornwall, from the designs of G. Wightwick, Esq., architect, Plymouth, who is also rebuilding the Grammar School in that town (in the Elizabethan style), and erecting a Gothic monumental arch to the memory of the late N. Grylls, Esq. — *B. Plymouth, Nov.* 6. 1834.

A large Chapel in the earliest pointed style is now erecting at Bude in Cornwall, at the expense of Sir T. D. Acland, from designs by Mr. Wightwick. — *Idem.*

Dorsetshire. — *Camford House, near Wimborne.* — Since I had the pleasure of seeing you, I have obtained from Dr. Buckland the address of the person I mentioned to you as a manufacturer of artificial stone — Mr. Easton, Canford, Wimborne, Dorset. The stone is made of sand and clay of the plastic clay formation near Poole. It is, Dr. Buckland says, a very sandy white brick, formed in moulds to the shapes required for Gothic windows, or other ornaments. Mr. Easton is steward to Mr. William Ponsonby, M. P. for Dorset, for whom Blore has built a new house of this material. — *W. C. Trevalyon. Wallington, Oct.* 15.

SCOTLAND.

Watt Institution, Dundee. — A subscription has lately been entered into here, for the purpose of erecting a lecture hall and museum for this Institution and some progress has been made in a collection of natural history, &c.; so that we are in a fair way to wipe off the stigma so long attached to our bustling town, for its want of encouragement to science. — *William Gardiner, jun. Dundee, Oct.* 4. 1834.

IRELAND.

Armagh Cathedral. — I am just returned from the extreme north of Ireland, and, on my way home, I saw the cathedral of Armagh, and all the singular operations which Mr. Cottingham the architect has been, and is, performing for its restoration. He has had the whole tower shored up, and put fresh groins under it; and is now going to pull the nave lines of columns together (they have started out at top), by the contraction of heated iron bolts. I hope to be able soon to send you an account of it, with figures of the modes of proceeding. — *Robert Mallet. Chapel-Street, Dublin, Oct.* 30. 1834.

ART. II. *Retrospective Criticism.*

ISOMETRICAL Projection, and Isometrical Drawing. — In the review of Mr. Sopwith's *Treatise* (I. 369.), it is recommended as being " by far the best, and indeed the only complete, work that has yet appeared on the subject." If we take into consideration the great quantity of practical information on mining and surveying; the scientific and mathematical illustrations by Mr. Nicholson; the real objects chosen to illustrate isometrical drawings, such as buildings, gardens, furniture, &c.; the admirably engraved plates, and indeed the handsome manner in which the work is altogether got up; it must be confessed that Mr. Sopwith's *Treatise* is most worthy of a place in the scientific library. But as a treatise on isometrical projection, apart from the other information, and the superior style in which it is executed, it is neither the best, nor yet the most complete, work on the subject. In judging of the quality of any production, we must consider it with relation to its price; and before Mr. Sopwith's *Treatise* can be said to be the best, it must first be shown that it is the cheapest in proportion to the information it contains: that this is not the case, may be seen by the sequel.

My first impression on seeing the book was wonder at what the author could have said to fill so large a volume; and, after carefully perusing it, I must confess, in justice to the student uninterested in plane geometry, who desires information on isometrical projection alone, that he will find many parts of the work too intricate for his understanding; and that in the sum of 16*s*. (the price of the book) he will have to pay for much information not essential to his purpose. For the information of the geometrical student, as well as to prove that the work (which, judging from the mathematical illustrations it contains, pretends to illustrate isometrical projection on scientific principles, and to do this correctly) is not the most complete work that has yet appeared, it may be necessary to point out the following defects.

All those who have a knowledge of perspective, and of orthographical projection, are aware that the former is projected on a plane by rays radiating from a point, the axis of which is perpendicular to the plane; and that the latter (orthographical projection) is projected by parallel rays which are all perpendicular to the plane. Mr. Sopwith has considered it advisable to dispense with the plane of projection, lest it should embarrass an artist in its application; but its omission has left nothing for the learner, by which he might detect the want of principle in the " verti-horizontal " and " verti-lateral " drawings, in a work containing much scientific disquisition. In the first place, let us prove that the representations of figs. 4, 5. 7, 8. 10. and 11. of pl. xvii., and figs. 1. and 2. of pl. xxiv., are without any principle; and then show that Mr. Sopwith might have attained his wish — namely, to have one side of an object "showing a full view (or nearly so) of the upper surface, and a diminished view of the sides of a cube," by one method; and by another method, "showing a full view (or nearly so) of one of the sides, with a diminished view of the surface" — on principle.

Then, these figures are incorrect, for this very simple reason, that it is impossible for three faces of a cube to be shown by any projection whatever, if one face is represented geometrically, and the angles of that face are right angles; or, in other words, when the top and bottom horizontal lines of that face are parallel to the plane of projection. If the surface of that geometrically represented face were parallel to the surface of the plane of projection, one face alone could be seen, and the isometrical representation of that face would not be equal to the geometrical representation of it. Again, when the upper and lower horizontal lines of the face of a cube are parallel to the plane of projection, and yet the surface of the face forms an angle with the plane, two faces are seen; but in no case can three faces of a cube be seen, if any of the twelve boundary lines be parallel to the plane of projection: hence the want of principle in the figures above mentioned.

It is not necessarily inferred by the foregoing, that a cube in isometrical projection should always present three faces of equal surface, although this is the most rational method; but Mr. Sopwith could have attained his object on principle (an object which, he justly observes, "will frequently be found extremely useful," that is, to have occasionally the upper face of a cube seen more than one of the sides, and the reverse), by making the major diagonals of the three faces each of the same length, and placing them so as to form an equilateral triangle, and yet to have none of the boundary lines parallel to the plane.

Having discarded the "verti-horizontal" and verti-lateral" representations for their want of principle, we can now dispense with the parallel rulers No. 2. and 3. in Mr. S.'s book, as perfectly useless. Mr. S. has given us a ruler or triangle for drawing the left-hand lines, and another for drawing the right-hand lines. Why not turn over the triangle for the left-hand lines (No. 1.), and draw the right-hand lines with it? These triangular rulers, said to be invented by Mr. Sopwith, have been in use in Edinburgh these twenty years; and parallels with scales on the edges of them have been made by Mr. Harris of Holborn, as long as I can remember. Would Mr. S. point out what part of the invention he lays claim to?

Notwithstanding the beautifully engraved views of Chapheaton and Chesterholme in the book before me, yet there is a perfect contradiction of system in each picture respectively. If the buildings are orthographically represented, then their accompaniments could not possibly be radially represented — having the foreground objects large and dark, and the distant objects small and light, so as to produce the aerial perspective therein exhibited.

However much I may admire the mathematical illustrations and scientific disquisitions of Mr. Nicholson (and in common with every one else, I have no doubt but that he has rendered more benefit to practical science than any other living author), I cannot help remarking, that the scientific part contributed to the work by that gentleman is not, as stated in the review, "easily comprehensible by a person who knows scarcely anything of geometry;" and in my own opinion, Mr. Jopling's method, stated in the *Practice of Isometrical Perspective*, of making various sections of a cube, is far more intelligible to the non-geometrician than the (to him) hieroglyphics in Mr. Sopwith's book. The review says, "Mr. Sopwith shows, and indeed it is self-evident, that the term isometrical perspective is incorrect." This was shown and proved in the *Mech. Mag.*, in July, 1833. The manner of making isometrical drawings which Mr. S. recommends is far preferable to isometrical projection, from the facility it affords; but it had been previously noticed by Mr. Jopling in the last page of his *Treatise ;* and this isometrical drawing is not only, as stated in the review, " a certain proportional enlargement of *some* parts of the projection," but a proportional enlargement of *every* part of the projection. Indeed, an isometrical *drawing* of a house is nothing more than joining the front and end elevations, and the vertical profile of the roof, together ; but instead of drawing the level lines horizontally, as in geometrical elevations, those of the right-hand elevation are drawn at an angle of 30° to the bottom of the paper, and the lines of the elevation to the left are also at an angle of 30° to the bottom of the paper, but the reverse way. Any one who will but make a trial, will find he can scarcely go wrong. The lines almost of themselves fall into their places, as nicely, by just moving the pencil, as any well disciplined troops fall into their ranks at the word of command.

In conclusion, it is gratifying to find that a method of projection, which combines the advantages of geometrical representation with an approximation to radial perspective, should now be viewed by professional men as claiming their best attention ; and that the prejudices which long custom had deeply rooted in favour of other modes of representation should be now gradually vanishing; for it is a striking sign of the times, that we must now no longer retain customs for their antiquity, but for their utility alone. We must not, nevertheless, look upon isometrical drawing as forming a picture, but as a useful and most expressive mode of representation ; and any attempt to combine with it aerial perspective presents too glaring an inconsistency to require further comment.

A concise and perfectly intelligible little treatise on isometrical drawing, so as to suit the plain working mechanic, divested of every possible technicality is still, yes still, wanting ; and any person who should occupy more paper with the whole affair, than the size of six pages of the *Penny Magazine,* would rather mislead such persons, that is, unlettered persons, than guide them. —*J. R. Paddington, Dec.* 8. 1834.

Hints for a Critique on Blunt and Stephenson's Work (reviewed p. 371.). — In the first plate, the injection cock, steam and vacuum gauges are omitted. The injection cock is shown in plate vi., F F, and should have made a prominent object in plate i. ; particularly as there is no plate showing the air-pump and condenser at large, which is somewhat odd ; and, indeed, it is an omission of importance, as both ought to have been inserted before the hot and cold pumps in plate v. I cannot see why the packing and gasket joints are omitted to be shown in plate iv. ; the packing is shown to the piston, but not to the stuffing box : and the same remark applies to nearly all other packings. As a practician, we consider it essential to show the thickness taken up by the gasket and cement for the joints, which, in fact, is near half an inch ; and, unless it is shown in the drawings, it makes an important difference when the parts come to be fixed in place. I also object to the great clearance given to the piston (plate iv.) : our study is to avoid loss of steam by giving the least possible clearance (seen also in plate i.) ; and I believe it is owing to attention to this point that marine engines have been successfully introduced into factories. In truth, where an independent engine is required, I believe few engineers would adopt the form of plate i. in preference to the marine ; as, by substituting a fly wheel in place of the paddle wheels, and adding governors, a complete independent engine appears. I have enlarged more on this point than may appear requisite, in order to caution young engineers from going to an unnecessary expense for an independent engine ; which they will assuredly do if they adopt the design in plate i. I would undertake to make a 30-horse marine engine for the cost of the 20-horse there shown. In a work of this nature, professing to be purely practical, I should have been better pleased, had the dimensions of each part been written on it, as is done in Mr. Telford's work on the Menai Bridge. They cannot be real working drawings without this, as they must of necessity be of different scales ; and this causes confusion to workmen, to say nothing of the loss of time occasioned by taking dimensions, &c. I have used the term independent, instead of portable, engine, to distinguish it from what are called house engines; that is, those which are connected with the building in which they are placed. Portability is not easily associated with a weight of thirty tons. Independent, in this case, means not dependent on a building for support. — *T. Norwich, Aug.* 4. 1834.

Birmingham Town Hall. — The critique, which appeared in I. 379., on the ceiling of this edifice, differs from every opinion I have before heard expressed upon it. If you could get a geometrical elevation of one of the principals of the roof, I am sure you would find it of as good a construction as any roof in England. A little sinking of the principal rafters has certainly taken place; but it has arisen in consequence of a space having been left between the principal rafters and the discharge rafters, which ought to have been wedged up at first, and may be easily rectified. — *A Resident in Birmingham. Dec.* 3. 1834.

We have applied to Mr. Welch for a drawing of this principal, which he has kindly promised to send us. — *Cond.*

Devonshire. — *Exeter Athenæum.* (I. 252.) — The report which assigned to Mr. Wightwick the design for the Athenæum now building at Exeter was erroneous. The mistake seems to have originated with the likelihood that one who had been giving lectures on architecture at most of the Devonshire literary institutions, might be the architect of the building in question; but such was not the case. — *B. Plymouth, Nov.* 5. 1834.

Art. III. *Queries and Answers.*

COLOURS and Drawing Instruments. — Whose colours are at present considered the best, and whose drawing instruments? Here we have Reeves's colours, which seem to be growing out of date; and Ackermann's, and also Newman's. I am told there is a description of colours in use by the architects of London, which are something between body colour and water colour, and which are said to be particularly suitable for elevations. I should be greatly obliged by any architectural student's answering this; as I should rely much more on his answer, than on that of any dealer, or even of any master architect. — *Thomas Andrew Brown. Rose Street, Edinburgh, Nov.* 21. 1834.

Which is the best Principle for an air-tight Door? — *Arthur K. Russell Square, Sept.* 19. 1834.

A Double Door. — The plan I submit to you was invented by me for an individual (since dead) who was much inconvenienced, particularly in cold weather, by the least current of air entering his apartment upon the ingress and egress of his attendant. It is a double doorway, constructed so that one door cannot be opened until the other is quite closed. I have since thought it would be a useful appendage to a dining-room, when fitted up in an appropriate manner, with trays to slide, &c. It might be placed in a partition, so that the different courses might be put in on one side, and taken out at the other, without the door of the dining-room being once opened during dinner; and there being no possibility of one door opening till the other was shut, no draught, but such as may be desirable, can enter that way. I have a model, on a small scale, fitted up with trays in this way; and it appears to me that it may answer such a purpose very well. I have no opportunity at present of ascertaining its utility on an enlarged scale; but should any of your readers desire to try it, and should wish to inspect my model, or a drawing of its principle, I shall feel great pleasure in furnishing them with it. — *William Coles. Kingsgate Street, Winchester, Nov.* 4. 1834.

We should be happy to receive from this correspondent such drawings, and descriptions of them, as would render his plan intelligible to our readers.

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ORIGINAL COMMUNICATIONS.

Art. I. *On Architectural Parallels.* By W. H.

> "Of the first building that was raised, it might be with certainty determined that it was round or square; but whether it was spacious or lofty must have been referred to time." — *Dr. Johnson.*

When enquiry is instituted by comparison, argument is the result of contrasted, and confirmation of parallel, instances. In the every-day occurrence of making any trivial selection or purchase, if there exists any want of confidence in the judgment, or any doubt of the quality of the thing to be chosen, it at once suggests the desire to see another of the kind. Should this second article be like to the first, the party is contented; but should the article be without parallel, and, in fact, no choice be left, there is still nothing evinced thereby which is likely to disturb the satisfaction of the purchaser, although the circumstance may not be alone sufficient to confer it. The mind, confirmed and resolved in the one case, as it were, by the assistance of precedent, is pleased only, in the next, that precedent does not approach it in any form of deterioration. It is in this manner that study, in reference to architecture, is successively pursued and answered. The concordance, or agreement, that appears by a parallel process of examination in buildings, furnishes manifold evidences of the same intentions on the part of their respective architects, and begets an authority for their repetition. The digressions and discrepancies which appear from this method of investigation, and which break its continuity, are the means of providing concurrent reasons, and food for speculation and research upon their points of difference. It is proposed, in following these views, to offer a few remarks, without intending to lead to any more practical or professional point than their consequent general application.

In the first place, the chronology of architecture presents the largest scope, and, indeed, the most interesting subject, for parallels. It is thus that the historical eras, progressive ages, and the rotation of alterations in building, are recognised and impressed upon the recollection, from their most distant origin to the present hour. The remains of erections of the most remote time bespeak their date by coincidences of style, of materials, or of construction, when recorded and literary means either fail or are enveloped in the dubious shade of fable. Not only the dates, but the merits and demerits belonging to each period, may be also thus deduced. Primitive forms in building, from their invention at the call of necessity, are traced to the exalted, though still necessitous, purposes of science; and again, the various declensions in the vitiated appropriation of the means of art, and in the departure from all rules connected with art, seem to be useful in leading to a higher and more true estimation of what is really valuable. Works executed in the passing age can only be judged of with reference to those built before, and the whole range of time is open for the assimilation and comparison of their principles. New erections have most usually one distinct advantage connected with their date; namely, that of according with the prevailing customs and fashions, by which they insure, to a certain extent, the praise and support of their day. On the other hand, the performances of former days, in being compared with ours, have also their share of the shelter of prejudice. There is a very general and romantic partiality bestowed on whatever in building lays claim to age; and the contrary with regard to whatever is altogether new. As a proof of this, not many years since, a very magnificent palace in London (Carlton House), of recent erection, at a great expense, and which excited very generally expressed admiration, was coolly pulled down, and every atom removed that could denote the site, to achieve the desideratum of little more than a footpath approach to St. James's Park, which it stood in the way of: and at this time the public are very cheerfully subscribing to the complete restoration of a comparatively useless structure (the Ladye Chapel in Southwark), merely on account of its antiquity, and as a perfect specimen of its particular period of architecture.

Disregarding any popular view or opinion on this head, it is allowed by competent judges, that many ancient remains, seen even through the film of decay, far surpass, in dimensions and quality, the displays of modern times. The circumstance of travellers taking so much pains to exemplify mere matter of fact information respecting them, conveys a strong proof of the prevalence of this opinion. What are called the wonders of Egypt (wonderful even in the fact, that, though seen by so few, they should be familiar in description to so many) defy any parallel for magnitude. The beauties of Athens, so called by the undisputed opinion of the most enlightened in repute, forbid any approach to equality either in labour or art. Thus, while the original productions of former ages bring to comparative shame the mere imitative efforts of our time, they are not impugned, in any important instances, by any attempt at rivalry.

To dismiss the subject of the illustration of dates, a second and more common, though less noticed, description of parallel examination of architectural production occurs. The multitude, considered either collectively or individually, in determining either the state or the quality of the object in contemplation, must be guided by reference to their own actual knowledge, in arriving at any certainty respecting it. This statement may appear childish and simple; but it would be found, for instance, that, if a person had presented to his view a building, the particular style of which he was utterly ignorant of, he would be more gratified, and his mind more taken up, in discussing the various properties of its materials, than in being informed that it was either in the style of Gothic or of Roman architecture. His opinion would be formed by a parallel of familiar facts within his knowledge or capacity; and the result he would arrive at would be a definite and clear notion respecting it. The most general term expressive of confirmed praise bestowed on buildings is in their being called fine, from a fine warehouse to a fine palace. The impressions that produce this encomium are derived from an almost imperceptible kind of comparison of the materials, dimensions, or costliness of the given building, with those of other edifices built for similar purposes, let their styles and details be ever so different. The same influence would also apply to many general terms of censure.

The most extensive application of the subject is, when without particular reference, either to periods or to extent, partial instances appear in architecture, which admit of being placed in a parallel point of view. It is a wide range, to trace a parallel between a building erected as the consummation of perfection in art, a Grecian temple, and that of a mere medium for a trade attraction, a London shop front: and yet their similitudes render this even a profitable and desirable subject of thought for the architect. The admired details of a cathedral may be seen transferred also by present use to an inferior erection; and wherever the principles and practices exhibited in large works can be rendered available to the ordinary purposes and objects of habitation, opportunities present themselves of deriving advantage by parallel investigation. Works such as those alluded to, could never have been intended to create a tithe of the force of impression conveyed by the originals from which they were taken; but it is, notwithstanding, owing to the similarity between them, that they receive the credit they do. The much-mentioned London University possesses a dome which is alleged to be of good proportion, and calculated to please the eye, as, in the preservation of its simplicity of form, there is scarcely a chance of an objectionable addition being made to it. This is allowed and felt to be the case; but it is also said to resemble the form of that of St. Paul's, which had previously received the commendation of an admiring world. It never could have been meant or expected, by an imitation which is only such in form, and not in size, to attempt to produce the same power of effect as that of St. Paul's; but it does very justly claim its due share of praise, in having reminded the public of, and confirming their delight in, an object they had already fostered as a national beauty. The same is the case in all works of small importance, when, by their means, it is endeavoured to call the standard of original grandeur into further notice, and from which only they claim their worth, like a beautiful poem, which becomes more generally useful, better familiarises us with the merits of the author, when compressed into a pocket edition. The demand for large buildings, by which are implied those that are important from their extent, and costly in their details, is only trifling, in comparison with the universal occasion for moderate erections; but there is a very great expectation that these smaller ones should partake each a little, and as much as possible, of the resemblance of what is admired in the larger. On the subject of domes, it should be recollected, that, had there been in London, or even within the limits of the same land, another dome erected, of form and size equal to St. Paul's, it would have been denounced as presumptuous. In this respect a feeling exists, which corresponds to that of the pleasure derived from the inspection of a miniature in the presence of the original; while a full-sized portrait, on the contrary, always seems (in the writer's fancy) to sink upon the canvass when contrasted with the brilliancy of life.

To sum up these short observations, it has been pointed out, that architectural parallels are serviceable on three points. First, with reference to the ages of the successive origin of styles, in which history especially, and other sciences, are interested; secondly, as regarding the extent of opinion formed by parallels with common and familiar facts; and, thirdly, in review of opinions founded on such near approaches to parallel instances, as are to be found in buildings, without particular allusion to either the date of erection or the extent of dimensions. One subject has been omitted, namely, a parallel of errors; an ungrateful topic, and as such, one which cannot be too little regarded. Where anything good is designed in modern architecture, there are many ready to point out the stock whence sprang the beauty; and modern defects, also, for the comfort of their parents, can find plenty of precedents upon which to throw their blame.

London, December 20. 1834.

In the Index to our first Volume, we have inadvertently confounded the articles of this correspondent with another, who uses the same initials. The author of the above is also the author of the Essay on Heraldic Ornaments in Architecture, p. 181.; on Uniformity, p. 285.; and on Character, p. 324.

Art. II. *On Art, considered with reference to Architecture.* From the French of Quatremère de Quincy. By P.

We shall not endeavour to embrace, even in an abridged manner, all the various bearings under which the word art may be considered; so many necessary distinctions are there to be established on so extensive a subject: but we must distinguish what are called the mechanical arts, from what are called the liberal arts, or the fine arts; and we must make, under this last head, a new division, to separate from the other fine arts the art of design. It is to a portion of this art that we shall confine ourselves in the present essay, that is, to the art of architecture. Before doing this, we shall endeavour to give a very short analysis of what constitute the points of criticism common to all the fine arts; or, in other words, of the points of view under which they may be considered.

It appears to us that the art of criticism consists in the power of viewing each art in its proper class; that is to say, as to those particulars which compose its elements, or its special attributes; as to its means or capabilities, or, in other words, as to whatever composes the particular action which each art exercises on our organs and our minds; and, lastly, as to its end, that is, with regard to what composes the kind of pleasure, or impression, it produces upon us, or the wants it is designed to satisfy.

Although all the fine arts are the offspring of one common parent, they do not differ the less in their individual kinds, in the powers they possess, and in the ends they are destined to attain. They differ in their kinds, because they have not, in their respective attributes, any direct connection; except that of all depending either on utility or pleasure. They differ in their capabilities or means, because these means are limited by the diversity of the instruments employed, and by the barriers that nature has established between the organs of the body and the faculties of the mind: and they differ in their ends, which in all is that of pleasing, as much as in the different routes which they ought to follow to attain it, and in the different wants they are intended to supply.

For example, although the pleasure to be derived from harmony exists in the attributes of music, as well as in those of architecture; the difference between the means employed in these two arts, and in the exterior organs affected by them, cause no resemblance to be found in the kind of harmony produced: and the reason is, that, in the constitution of the individual character of these two arts, the same diversity is found that exists between the sense of hearing and that of sight.

What has been said of the essential nature and suitable means employed in each art, is still more applicable with respect to what forms the end and aim of each.

Thus, there are arts, the principal end of which is to express, to paint, or to excite our passions. The means they employ are the images of things, either immaterial, as in poetry, or material, as in painting. The end of architecture, which only expresses itself in the abstract, is, to produce in us impressions resulting from ideas of order, proportion, grandeur, riches, and other like qualities. Poetry, by intellectual means, that is to say, by the interposition of ideas, presents material things to our view: architecture, by the use of material objects, presents to our understanding the most ideal affinities.

We shall not enlarge here on the details and applications of a theory which, even abridged, would form the substance of an entire volume; it will here suffice to show, that each art differs in its respective kind, in its means, and in its end. From the several modes of applying this elementary distinction, the theoretic definition of the art of architecture ought to result. Considered in its essence, or its first principles, architecture is an art founded on utility, and it is one which imitates nothing material or positive already existing in nature.

Its parts, relatively, are either evident imitations of nature, or indirectly drawn from natural objects: but, as a whole, it copies no reality; its form is nothing more to the mind than a combination of relative proportions and of reasons which please the more from their being simply expressed.

Under the head of means, we shall consider that architecture employs two kinds; namely, those of construction, which comprehend all that relates to solidity, durability, execution, &c.; and those of intellect, which tend to produce whatever may please the reason or the taste. This is what constitutes architecture one of the fine arts, or arts of genius. In its end or aim, architecture, partaking of two principles, those of utility and of pleasure, has really a double end: the one, independent of the art taken in its popular sense, is to form for man, and for the different uses of society, abodes and shelters, safe, commodious, solid; the other, to supply plans and elevations, for the arrangement of materials in such a manner, as, by their disposition, their form and combinations, their relation to each other, their proportions, their ornaments, and the agreement of their parts as a whole, to gratify the sight, and to produce in the mind a feeling of the harmonies of nature, both in the intellectual and material world.

From this it results that architecture may be defined as a compound art, the offspring of utility and of pleasure; and, as such, it ought at once to serve and to please us, by the union of those forms which are the most suitable to the exterior wants of man, and those which bear the greatest affinity to mental and intellectual pleasures. This definition, while it embraces the universality of the uses of architecture, and indicates its twofold principle, likewise shows us the difficulties which the art presents. Obliged to serve us in pleasing us, and to please in serving us, we see that it is impossible for the natural, technical, moral, or poetical parts of the science to be widely separated.

But what affinity, it may be asked, is there between the forms required by utility in architecture, and the forms whence result the ideas of order and beauty? What analogy is there in the exactions of utility, as regards walls, pillars, and roofs, with the proportions, arrangements, and ornaments which constitute harmony and beauty? We agree that ideas of order, symmetry, and concord have their origin in the constitution of our minds; but their application to the art of building is so far from being a necessary consequence of the exercise of that art, that no people but the Greeks have ever carried its application to the point of perfection. Such was the strict connection between the useful and the beautiful among the Greeks, that, if we consider their architecture in the useful point of view, it appears to bear the stamp of utility so evidently, that it might be believed the Grecian architects never had pleasure for an object; and if we examine it with respect to beauty, we might be tempted to think that they never took into consideration the laws of necessity and utility. We must own that this happy alliance might never have been formed elsewhere; so, rare must be this equal combination of the elements of utility and pleasure, whether in the works of men, or in the organs and qualifications of their authors. It was this latter concord that gave birth to the art of architecture in Greece. From the disunion of these two elements (utility and beauty) sprang more or less alterations in the principles and taste of architects. Causes, of which we cannot here give an account, gave the superiority to the ornamental or decorative department; and the system of order, and the fundamental sense of utility, upon which ought to repose all the rules of art, were comparatively neglected. Reason was sacrificed to prejudice. Architects, charmed with the beautiful forms of antiquity, adopted them without considering how they were to be applied; and thus the exquisite concord produced by the union of utility and beauty was destroyed, and the art proportionately debased. Every art ought to have rules, which, without restraining genius, preserve the bounds within which it may be freely exercised; but it should never be forgotten that, unless these rules have a more solid foundation than one based on arbitrary examples and authorities, whether of ancient masters or of a blind routine; and, in short, unless they rest upon a perfect accord between pleasure and utility; their inefficacy ought to bring them into discredit.

ART. III. *Plans for Rooms adapted to Houses where a Corner is curved off.* By W. H. LEEDS, Esq.

AMONG the improvements introduced of late years into street architecture, may be reckoned the practice, now generally adopted, either in building new trading streets, or altering old ones, of rounding off the angles of the corner houses. This is a great advantage, both to foot passengers and carriages, as it prevents sudden sharp turnings; nor is it less favourable to the shops so situated, inasmuch as it exposes, more conspicuously than is the case in other parts of the same line, that part of the shop which is thus turned, whether it be occupied by door or window. This system tends likewise to render the upper rooms more agreeable, provided the curve be of such extent as to allow of windows there in the several stories; because a freer and more extensive view of the street is thus commanded, and the distance to the houses on the opposite side greatly increased.

Still, many as are the advantages which recommend this mode of building the corner houses in such streets, it is not calculated to provide much space within, or to improve the rooms, except in regard to the "look-out" from the windows. As far as appearance is concerned, it must be more or less injurious to them, unless some study and contrivance be employed to produce internal regularity of plan: should this, however, be done, not only may all awkwardness be avoided, but a far greater degree of architectural effect and beauty may be attained than would be thought requisite under ordinary circumstances, where, there being no positive defect of the kind to overcome, the builder gives himself no concern about such matters, but makes his rooms of the ordinary shape.

It may be argued, that, in houses of this class, internal symmetry is of very minor importance indeed, hardly worth any particular pains to insure it. Yet, as many tradesmen let the whole of the first floors at high rents, it is surely worth while to pay some attention to what must set off the apartments to the best advantage, and what, if it should add something to the first cost of erection, would be so little, in comparison with the entire expense, as to be hardly a consideration, especially where cost seems to be disregarded in fitting up and embellishing the shop itself, both within and without.

Of the many pleasing and novel forms that might be thus applied, the annexed cuts exhibit only two, and they are not very remote from each other, being nearly the same idea differently shaped. Still they will be sufficient for our purpose, which is chiefly to lead those who may have an opportunity of introducing any thing of the kind, to exercise their ingenuity in devising such form and arrangement as may best accord with actual circumstances.

Fig. 13. shows how, with very slight contraction of space, that is, by cutting off another angle of the rooms, so as to produce a sixth side parallel to that in which the centre window is placed, the whole may be rendered perfectly symmetrical, instead of being left a truncated square, with a window facing one of its corners. We thus obtain an oblong hexagon, having a door or window in the centre of four of its sides, the two shorter sides being occupied by a window and fireplace. Supposing the second corner not to be cut off from the square, it is evident that, by placing the doors quite at the angles, there would be sufficient room for a fireplace on either of those sides, and the apartment itself would be all the larger; but it is equally evident that, unless some other expedient were resorted to, the chimneypiece could not be so placed as to be adjusted symmetrically to the opposite wall; whereas, by bringing it out, as here proposed, the whole is reduced to the most exact order, and the room itself acquires a character as attractive as it is unusual. So far, too, from being in an obscure corner, the chimneypiece would be directly facing a window, and at no greater distance from it, than if the room were perfectly square, and the fireplace on the side opposite the windows.

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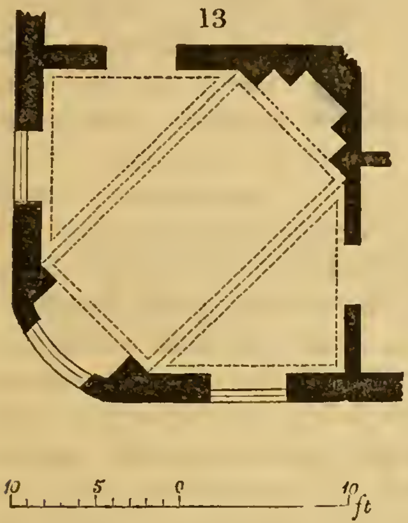

In *fig.* 14. the truncated square is converted into a circle in its general form, but extended by two triangular recesses, in which would be placed the doors communicating with the adjoining rooms. By this means the doors are removed to a farther distance from the fireplace, and, in fact, so situated as to be quite out of the way of any thing when opened. In this case there is only a single large window, which would afford ample light for a room of this form and dimensions (15 feet in diameter). The opening of the recesses should not be carried quite up to the cornice of the ceiling, as that would take off in appearance from the circularity of the room. The intersecting

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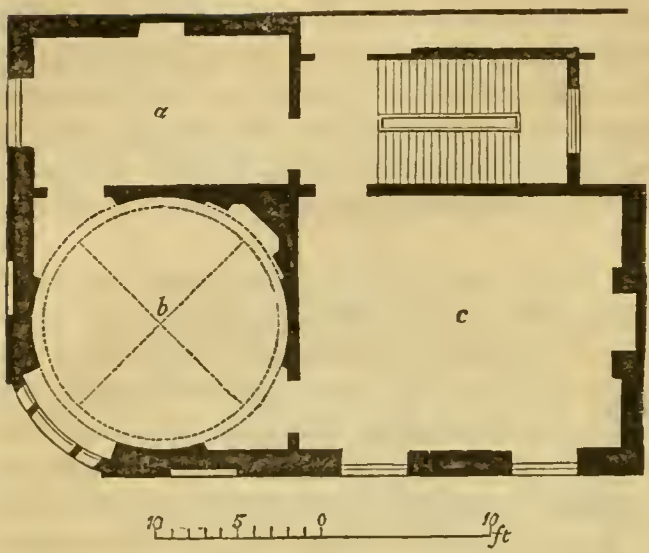


dotted lines are merely to show the direction of the symmetrising points, which is diagonal to the other rooms.

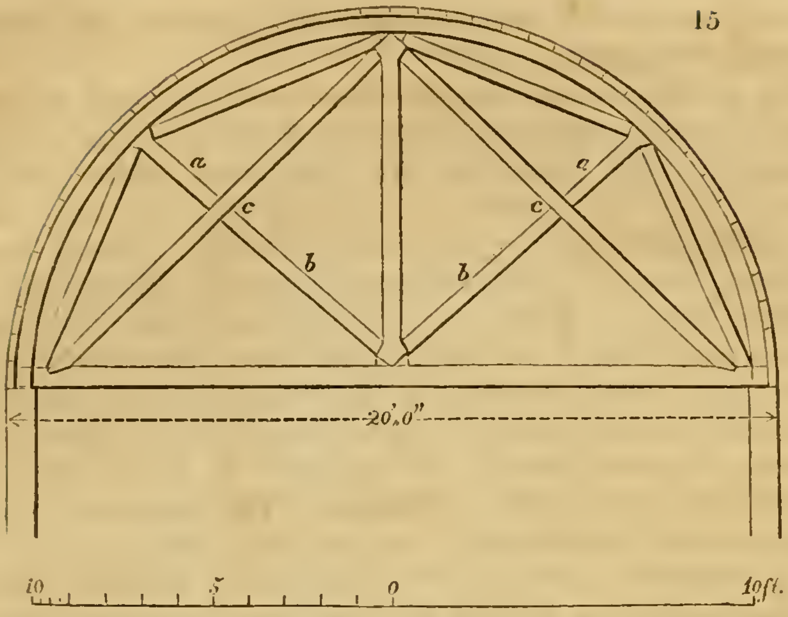
In this figure the whole of the first floor is shown, although, of course, quite arbitrarily, and, therefore, not likely to suit any specific purpose, unless either circumstances could be accommodated to that, or that be farther accommodated to the exigences of site and space. The apartment *c* would be larger than *b*, and *a* a small anteroom; or it might be used as a bedchamber; in which cases, *b* would be an inner drawingroom, accessible through *c*. By some farther variation of the plan, it would not be difficult to obtain a door into *b* from the staircase, and that, too, without disturbing the room *c*; but we might go on adding cut after cut, were we to attempt to meet every particular case by showing how the same plan of the room *b* might be adapted to it. These brief hints shall be here closed with the remark, that the above figures are two specimens from a rather extensive series of studies, or *schemata*, for forms of rooms; a much neglected, but assuredly not unfruitful, department of interior architecture.

London, Nov. 1834.

Art. IV. *An Original Design for a Centre.* By G. B. W.

The accompanying design for a centre (*fig.* 15.) is, to the best of my knowledge, novel, and, although simple, it is one of great strength; for it is constructed on the principle which, as Nicholson says, is the strongest, viz., "the triangle;" and I think this will be found as strong as any which could be formed with the same quantity of timber. Centres of a much larger span, whether segments, semicircles, or semi-ellipses, might be formed on the same principle, by having two ring posts trussed together in lieu of the one in *fig.* 15. I have to observe to you, that the pieces lettered *a b* are not meant to be in one length, and halved at the point *c*, but two distinct pieces. I think it unnecessary to

15



give scantlings, or any farther particulars, as the plan may be so easily understood by inspection.

Sept. 19. 1834.

Art. V. *On the Dwelling-Rooms of a House.* By I. J. Kent, Esq.

The breakfast parlour, dining-room, library, gentleman's room, storeroom, and sometimes the footman's room, are usually placed on the principal or entrance floor; and, in country houses designed in the cottage style, the drawingroom, music room, best bedroom, and dressing-room, are likewise often placed on the same floor.

The breakfast parlour is generally the smallest of the sitting-rooms. It should have the windows to face the south or south-east, the sun not having, at the early period of the day when this room is in use, acquired an unpleasant degree of power, and only possessing that genial warmth which excites cheerfulness and good humour. If in the country, the breakfast room should look into the flower-garden. Even in town, a few flowers seen from the window, or inside the window recess, tend to produce agreeable thoughts: and much good is done when we can begin the duties of the day with favourable impressions.

The floor of this room should be carpeted all over, and therefore need not be of an expensive kind; it only requiring to be, as, indeed, all floors ought to be, perfectly level. The boards should be quite flat, and the joints close; for, when the joints of the boards are open, the dust will work its way through the carpet and spoil it; and, when the edges of the boards are higher than the middle of the boards, the carpet will not last half the time.

The colours of the carpet should be light and cheerful, with a portion of green in them.

The skirting should be from 10 in. to 12 in. high, with a bold moulding on it; fixed so as to project an inch and a half from the wall, in order to prevent the chair backs from spoiling the paper. The wall should be papered with a light cheerful-patterned paper: perhaps a trellis pattern, with roses. &c.; but, at all events, with light and cheerful colours. The ceiling should be tinted either a grey or a light green shade; the cornices, plain, or but slightly enriched, should be a little darker tint than the ceiling. The woodwork in this room should be either green tints, relieved with light or dark mouldings, as may be most agreeable to the parties; or grained in imitation of green or grey hair wood, and varnished. The windows should be brought down to within 6 in. of the floor, and be taken up as high as possible: they should be sufficiently large to thoroughly light the room; as no one who has not attended to this would believe the difference an abundance of light makes in the cheerfulness of a room. There are various ways of enclosing the windows of sitting-rooms; but the best and handsomest is by shutters, folding back into boxes made to receive them during the day. They should never be made the whole height up to the soffit, as they generally are, but should either have the upper panel fixed, omitting the flaps, or there should be a capping fixed on the soffit, so that the shutter may be put to without any risk of rubbing and thereby spoiling the paint on the soffit. The shutters should be fastened back in the daytime by brass knob mortise latches: when this is done, it will prevent the shutters coming partly open, as they frequently do when not secured in their boxings by latches. They should be fastened at night by iron locking-bars, and not, as is most common, by latch bars. The sash fastenings should be strong, and capable of drawing the sashes closely and firmly together.

The doors should be as far from the fireplace as possible, but not close in the corner of the room; and they should be hung with rising hinges, in order that they may open clear of the carpet, and yet, when shut, be close to the floor. The locks should be mortised into the doors. In this room closets may be admitted with propriety; and they should never be less than from 14 in. to 18 in. deep. The doors and handles of the locks should correspond with the other doors of the room; and the space above the closets be enclosed up to the ceiling, in order that the cornice round the ceiling may be continued unbroken by any projection.

The chimneypiece should be low, not more than 2 ft. 9 in. high in the opening and may be of light-coloured British marble or vein marble plain in its design.

Where the mistress of the house is her own housekeeper, it will be found very convenient to have a storeroom communicating with the breakfast room, and so placed that it may be accessible without entering the breakfast room. It will likewise be found desirable to have it near the dining-room. This storeroom should have a dresser the whole length of the room: and, indeed, when wide enough, along both sides. Under the dresser should be abundance of drawers, some with locks and keys, and the space under the drawers may be open, or partly enclosed with doors. Closets, sufficiently capacious to hold all the china, glass, dessert service, pickles and preserves, should be provided, and broad shelves should be fixed all round the room above the door. Brass hooks of all sizes should be screwed into the edges of the shelves, to hang cups, jugs, &c., on.

One or two large filters should be fixed in or near the storeroom, to supply it with filtered water, and a feeding cistern should be placed on a level with the filter, so that the latter may be always full of water. The supply to the feeding cistern must be regulated by a ball cock. Great care should be taken to have the storeroom perfectly dry and inaccessible to frost. To make this room complete, there should be a double sink lined with lead; one half with a plug and wash-pipe, the other with a brass grating and wash-pipe, and having a drainer in it with holes for decanters and glasses. Both sinks should be supplied with hot and cold water, and there should be a small fireplace in the storeroom, to expel any damp that may by possibility have gained admittance. Where these conveniences are provided, all china, glass, &c., may be washed up and put away without being taken into the kitchen, and thus save much risk of breaking.

For storerooms and other places where it is thought desirable to cover the floor with oilcloth, I would advise old Brussels carpets to be sent, before they are quite worn out, to the oilcloth manufacturer, to be painted any pattern which may be preferred; by which eighteen pence per yard will be saved, as the painting of the carpet will be so much less than the price of new oilcloth, and it will be much warmer than the oilcloth painted on canvass, and much more durable, if it is kept until it is thoroughly dry and seasoned, before it is used. A small press for napkins and tablecloths is very useful in a storeroom. There should, if possible, be a veranda before the windows, to keep off the heat of the sun; and, where this is not practicable, a blind.

Manor Place, Paddington, Nov. 1834.

Art. VI. *On the Uses of Concrete applied as artificial Stone.*

By G. L. Symes, Esq.

I believe no one has brought this useful material to so great a degree of perfection as, and used it more generally than, Mr. William Ranger, formerly of Brighton, but now residing at Westminster.

Mr. Ranger conceived that concrete was not sufficiently understood to be duly appreciated; he therefore turned his attention to the matter, and, after considerable time expended in study and experimentalising, he, in 1832, took out a patent for preparing a kind of artificial stone. This artificial stone is formed in principle precisely the same as concrete, but with more care and cleanliness.

The first work executed in this new material was a wall surrounding the garden of Mr. Peel of Kemp Town. The ashlar stones (2 ft. long and 9½ in. by 8 in.) were formed on the spot, and became, in a few hours, sufficiently hard to commence setting. The mortar used in laying was formed of the same materials, and the whole became, as it were, one entire mass of concrete; having the precise appearance and the durability of Portland stone, though the proprietor did not incur above a third of the expense.

A beautiful edifice, called Belvedere Tower, was next commenced by Mr. Ranger. This building, built for the purpose of enclosing a steam-engine, is from a design from the pencil of Mr. Barry, and consists of an octagonal pedestal, upon which is placed another of a circular form, supporting eight three-quarter columns of the Corinthian order, with a very neat and elegant capital, cornice, &c. Over these are placed pilasters, or antæ, finishing with a raised-paneled dome; and a handsome finial, constituting the chimney, completes the structure. The whole of this tower, with the exception of the octagonal pedestal, is built with this valuable material, and reflects great credit both on the architect and the builder. The tower, which answers the double purpose of engine-house and observatory, is situate on a delightful prominence in Brighton Park, the property of Thomas Attree, Esq. Two gateways to this park have also been designed by Mr. Barry, and erected of this patent stone. The southern gate is one of the most beautiful of which the county can boast.

One of the most important works undertaken by Mr. Ranger is that of undersetting the storehouse in Chatham Dockyard. These foundations were laid in loose or boggy ground, by the old and dangerous method of laying pieces of timber, about 2 ft. 6 in. or 3 ft. square; next putting sleepers lengthwise, with the walls covered with planking, upon which the superstructure is commenced. The ultimate consequence of this imprudent method, when resorted to in a situation where the timber is subject to being alternately wet and dry, is, that, in a few years, a settlement rapidly takes place, and divides the building into numberless parts. The bond of brickwork being broken, the edifice is in a perilous state, and, unless rectified, would probably fall to the ground.

The northern division of the storehouses in the dockyard at Chatham was in a most perilous state, when Mr. Ranger undertook to remove the old foundation, consisting of rotten timber in a state resembling pap, and to substitute one of concrete. The building which required undersetting is upwards of 500 ft. long, and the breadth of the foundation exceeds 7 ft. He commenced by digging a trench until he found a good firm bottom; he then threw in the concrete between a framing, forming a case or box to keep the material together, and this he continued to do, till within a short distance of the brickwork. A layer of slate was then placed, upon which a machine was put, and concrete was then thrown in between this, and pressed up under the brick footing by four strong men. The instrument was made expressly for the purpose, of steel, and it answered the end excellently. The building now rests not on perishable matter, but on that which time, instead of injuring, will improve.

Brighton, 1834.

Art. VII. *Notice of a Chimney Pipe for preventing Smoke, in Use in the Neighbourhood of Barnsley, in Yorkshire.* By T. W.

I must say that I quite agree with you in your detestation of chimney pipes, though I have been driven to use them here, but I should wish to see them much simpler, more architectural, and not so like the china shop. In small rooms, the great cause of chimneys smoking is the want of a sufficient supply of air; for, if you set open the door or the window, there is a draught directly. The simplest remedy is to introduce a supply beneath or behind the fire: through the wall, if, unluckily, your chimney is in an outer wall; or by means of a pipe of copper or lead, under the floor, or behind the plinth, if it is in an inner wall. I have known pipes introduced into a chimney with good effect, in an inclined direction, just as it rises from the roof. But, after all, there are cases, I think, where a chimney pipe is the least evil; as, where a violent wind frequently overpowers a chimney. Here, to heighten the chimney (mind I speak of an old house) would frequently be a greater eyesore. I have lately put up one that was recommended to me, and has answered very well.

The appearance (*fig.* 16.) of this pipe, or pot, as it would be called about London, is more architectural than most others

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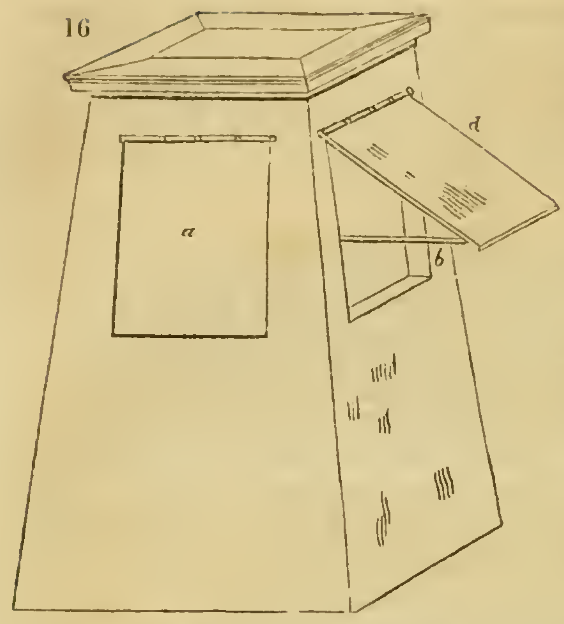


which are made either of pottery or iron, and it surpasses all the chimney terminations that I have either heard of or seen, in preventing the wind from blowing the smoke down the flue into the room.

The general form of this pipe is that of a truncated pyramid. The four sides are cast separately, and bolted together; and each side is fitted up with a hinged door (*a*). The top is closed with an iron cap, which may be made architectural, and in harmony with the style of the house. There could not be a more suitable plan for disguising a chimney top; as a Gothic pinnacle, or, indeed, a pointed tower, turret, or pointed vertical termination of any kind, might be employed. Each door is connected with the opposite one by a rod of iron (*b*) about 2 in. longer than the diameter of the pipe, so that, in whatever direction the wind blows, it closes the door on the side against which it strikes, and opens the opposite one.

This arrangement is good in theory; and, having been tried for a number of years in this neighbourhood, every Barnsley man will tell you that it is also good in practice; which, after all, is the only safe test of "new improvements."

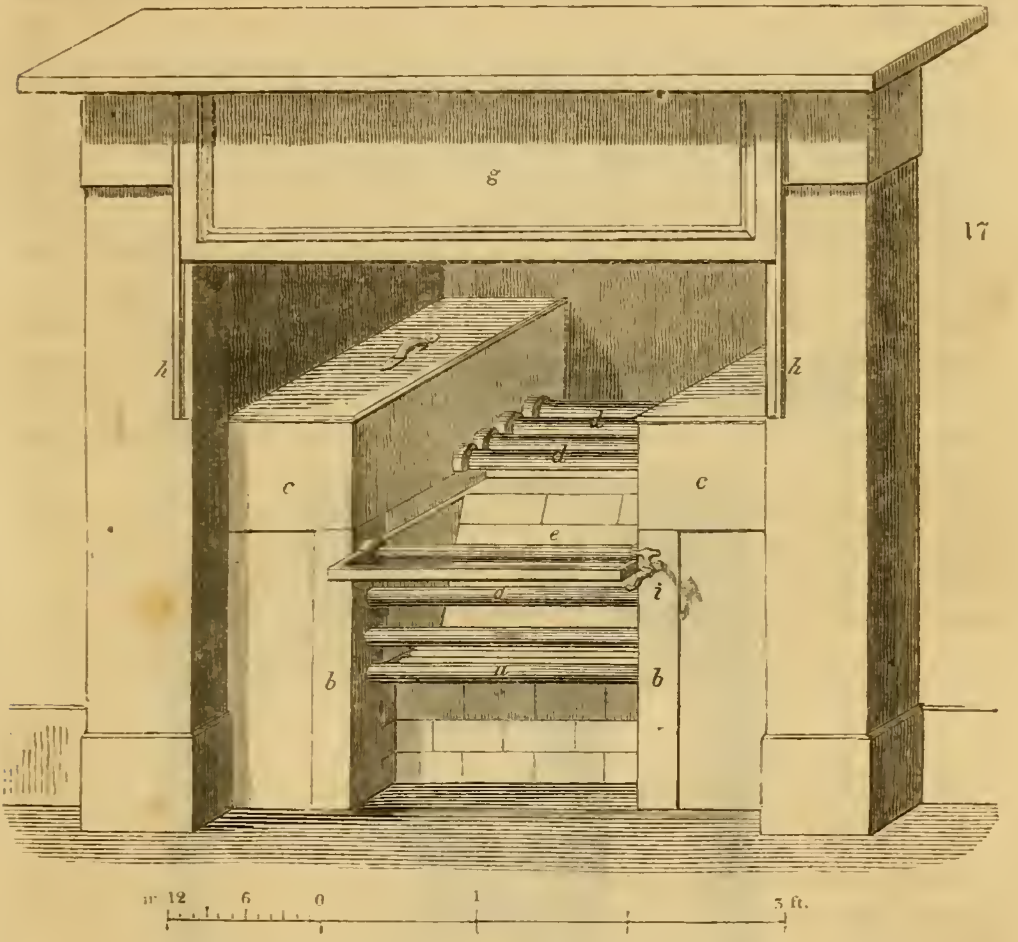
Banks, near Barnsley, April 12. 1834.

Art. VIII. *A Description of Mr. Weeks's Patent Cooking Apparatus, with illustrative Engravings.* By Mr. Robertson.

Mr. Weeks's improvement in the cooking range consists in making the most of little means; or rather, in taking the greatest possible advantage of a given quantity of fuel, so as to obtain the greatest extent of heated surface from the means allowed. To attain this end, the front bars of the grate, the cheeks, the back, and the end pieces into which the back fits, are constructed of hollow tubes, the whole having at the same time the appearance of a common grate; and pipes from these communicate with two hot-water cisterns, one placed on each hob of the grate. There is also a communication between these cisterns, by pipes passing horizontally over the back of the fireplace, so that a continually circulating medium is obtained. Mr. Weeks has also a smoke-board to his fireplace, for causing a greater draught in the flue when the fire becomes low.

There is an oven connected with the improved range, in which, from the manner of its construction, meat may be baked, and yet have all the advantage of meat that is roasted. Mr. Weeks has also invented a false bottom for grates, which is perhaps not less ingenious than his other improvements, though of less importance. The whole will be readily understood by reference to the engravings.

Fig. 17. is the "tradesman's kitchen range." The front bars (*a a*) which are hollow, communicate with hollow cheeks (*b b*); from the back of which pipes pass to the bottom of the cisterns (*c c*); and the communication between these cisterns is formed by the pipes (*d d*). The back of the grate, which is composed of hollow tubes, and is shown on a larger scale at *fig.* 18. *e*, fits into the hollow end pieces (*f*); each of which has also a pipe to communicate with the hot-water cisterns (*fig.* 17. *c c*). The inside of the cast-iron back of the grate, which the poker comes against in poking the fire, is nearly smooth, and the pipes are almost entirely on the outside, as may be seen by inspection of *fig.* 18. *e*.



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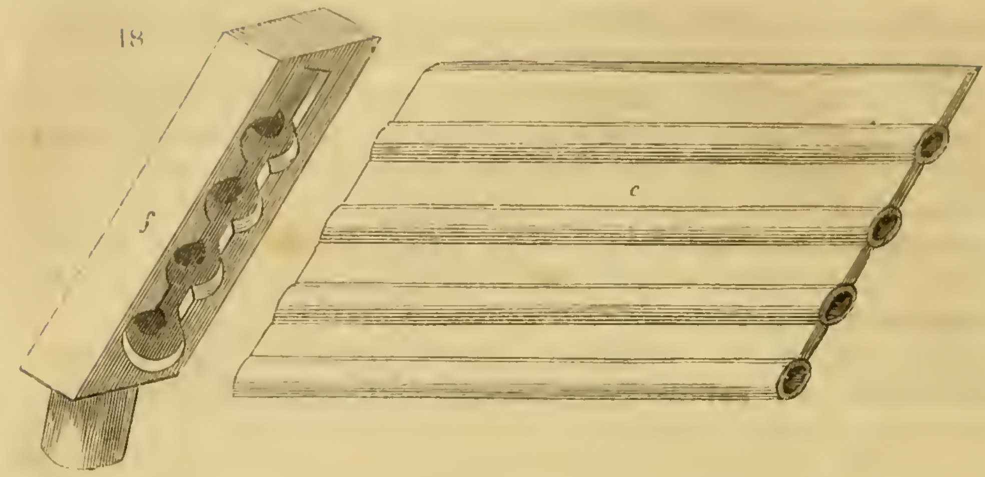
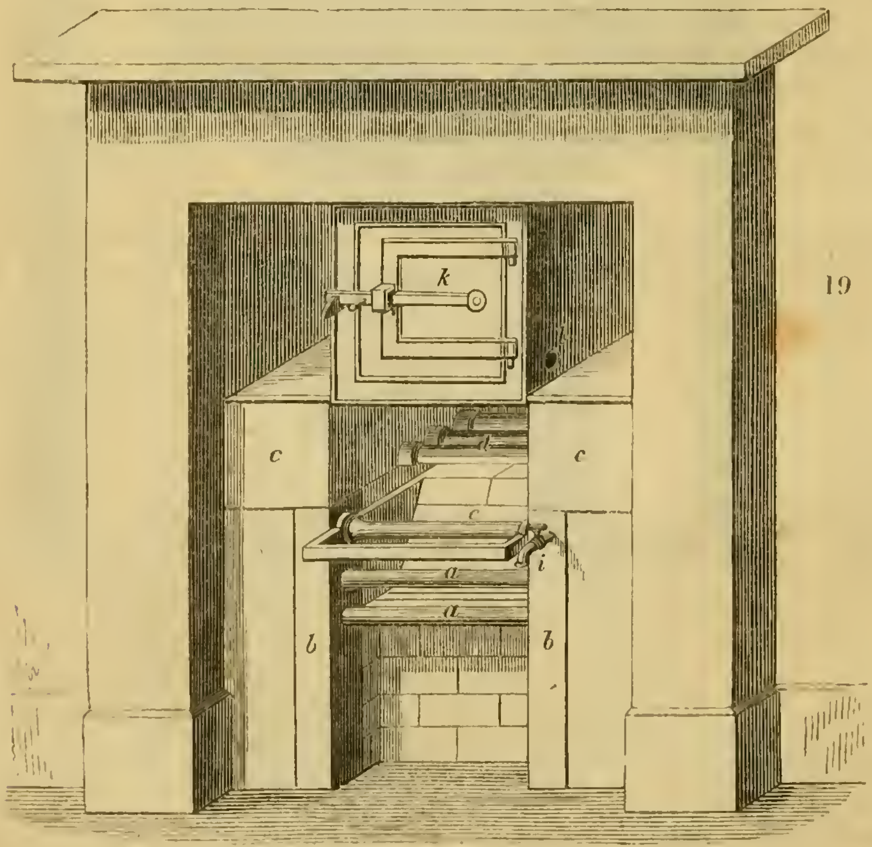


Here we have, first, all the advantages of the common range; then the pipes (*fig.* 17. *d d*), under which, if necessary, fire may be put, and on which pots or saucepans that it is wished to keep slowly boiling may be placed; and then we have the cast-iron cisterns (*c c*), containing boiling water, in which tin pans are put for boiling joints of meat, puddings, vegetables, or any thing else that may be required. There is also a constant supply of hot water for washing or other cleaning; and the hot water serves the farther purpose of heating the room in which it is



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placed. The cock (*i*) for drawing the water off is fixed near the top, so that the pipes can never be wholly emptied.

The smoke-board may be of wood or of sheet iron. It slides up and down in the grooves on each side (*h h*); and, for the facility of moving, it is hung in the manner of a window, by ropes, and weights passing behind the chimney jambs. When the chimney smokes, or when the fire becomes low, the board is drawn down, and thus a greater draught is occasioned, which carries off the smoke, or kindles up the fire.

Fig. 19. is the "cottager's or poor man's cooking range." Here we have all the advantages of *fig.* 17., with the addition of an oven placed over the fire. The grate and cisterns, &c., being on the same principle as *fig.* 17., though of a smaller size, and the same letters of reference referring to the same parts in both figures, the description of these parts need not be repeated. The improvement in the oven (*k*) is the introduction of a continual current of air. We all know that meat which is roasted is superior to meat that is baked, because the former is cooked in a continually changing, and consequently a purer, atmosphere; and the exhalations from it pass up the chimney, and otherwise into the atmosphere; but meat that is confined in an oven becomes saturated with the impurities with which the air surrounding it has become contaminated. To obviate this evil, openings (*l l*) are made on each side of the oven, through which a constant current of air passes, and the exhalations are thus carried up by a funnel into the flue.

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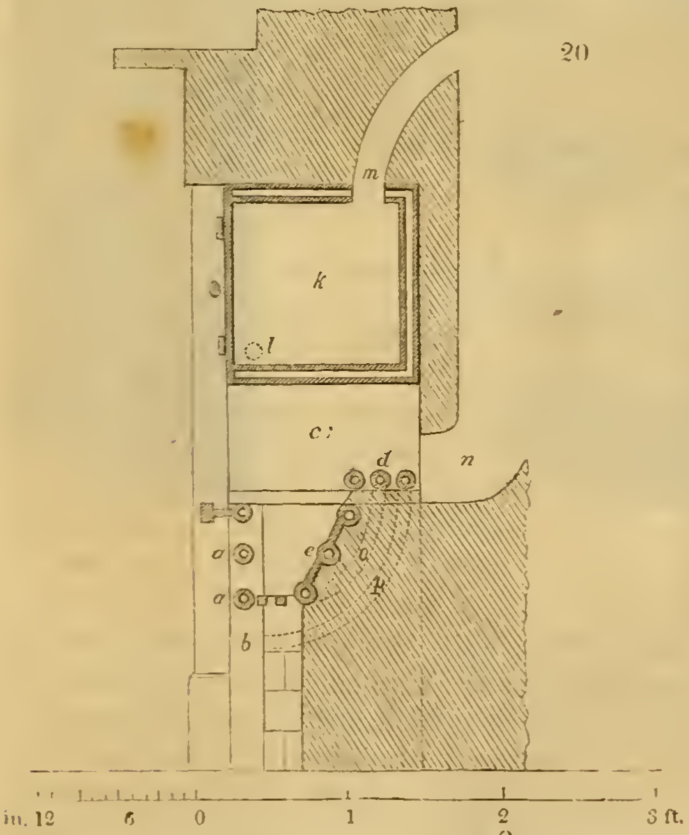

Fig. 20. is a section of *fig.* 19. In this figure also the same letters refer to the same parts. The oven is double cased, so that there is a vacuity all round, except at the doorway, for a current of hot air; *m* is the vent from the oven to the flue; *n*, the opening into the flue for the smoke; *o*, the pipe from the bottom of the cistern to the bottom of the back of the grate; and *p*, the pipe from the bottom of the cistern to the back of the cheek. It will be observed that these pipes join the grate, at the lower part of the back, and the cheek, at a little below the level of the grate; because they come from the cold water supply, and, the cold water, by its gravity, forcing up the hot water, the water drawn off at *i* will always be found hot.

Fig. 21. is a kitchen range, or cooking apparatus, suitable for a gentleman's family. The grate, the hot-water cisterns, and the oven, are on the same principle as the smaller range, *fig.* 19.,

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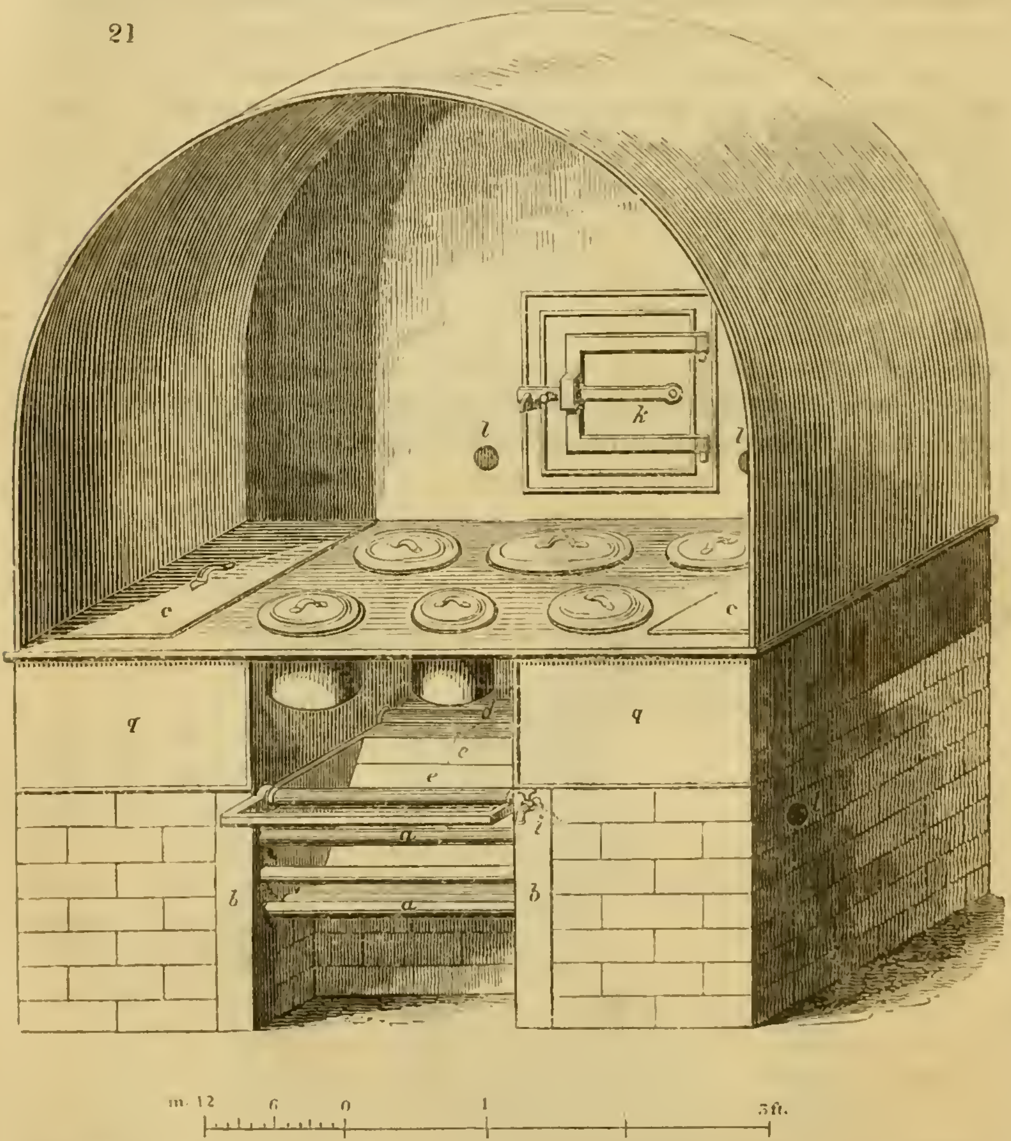
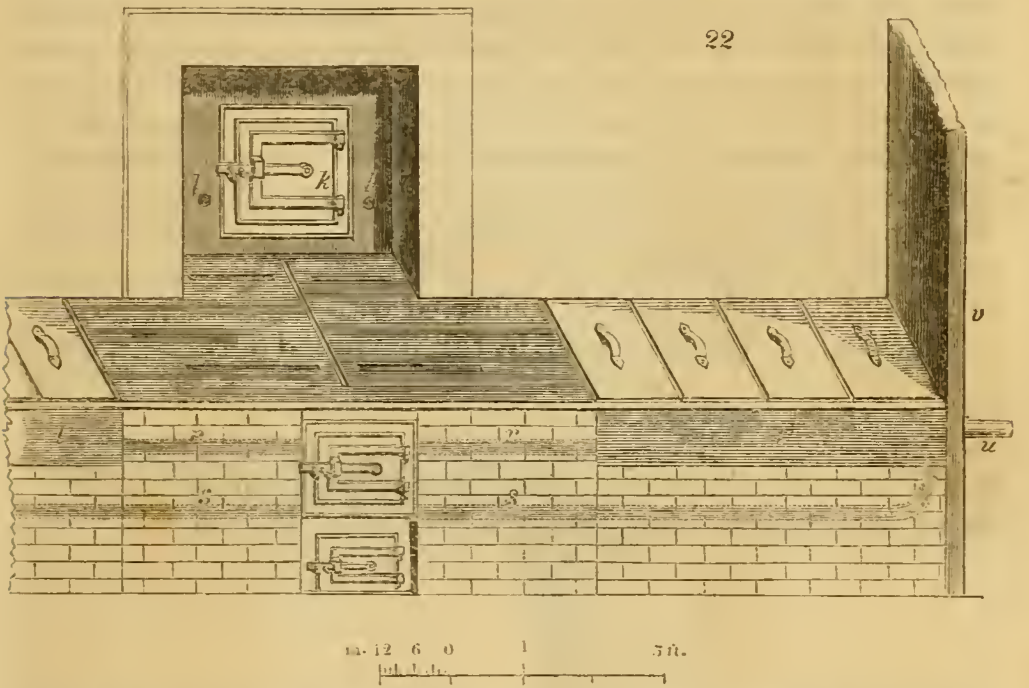


though of a much larger size; and the same letters refer in this figure as in the preceding ones. The surface of this range is covered with a cast-iron plate, in which are placed five cast-iron pans, and a fish-kettle (of course the number of these pans may be increased), for stewing and for other culinary purposes. These vessels contain only boiling water, but tin vessels are placed in them, and in the cisterns, containing water, the articles to be cooked, either by stewing or boiling; the water, &c., in the inner vessels being made to boil by those vessels being surrounded by the boiling water in the outer vessels. This offers two advantages, namely, that the water in the tin vessels can never exceed the boiling point; and that these vessels with their contents may be easily and at once lifted out. In *fig.* 21. *q q* are two sheets of cast iron, which slide in grooves, and are pushed together to keep the fire and heat from any one engaged at the stewpans. Over this range is a canopy of tin or zinc, to prevent the steam ascending to the ceiling, at the top of which there is an opening for its escape into the flue.

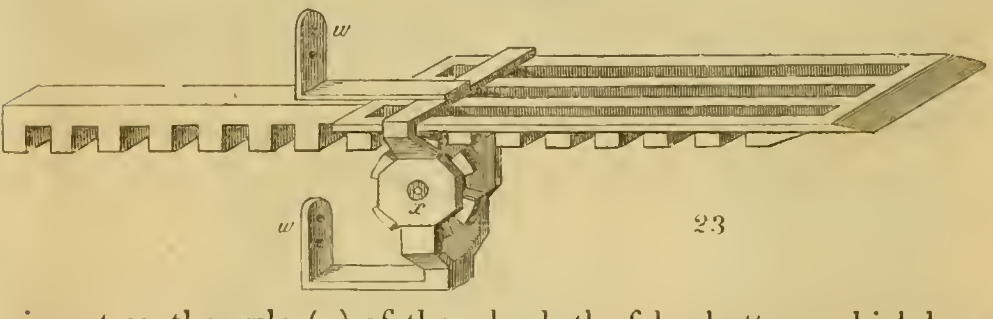
Fig. 22. is a range suitable for a hotel, a club-house, or confectioners. The fireplace consists of a furnace formed of hollow tubes or pipes, which surround the top, the bottom, the back, and the sides of the fire. These pipes, which form the fireplace, communicate with the cisterns on each side by the pipes *r r*, leading from the top, and the water returns again from the cisterns to the lower part of the fireplace by the pipes *s s*. Over the furnace or fireplace is placed a cast-iron plate extending the whole length between the cisterns, on which saucepans and stewpans are put to boil and to stew. The great evil occasioned by the metal immediately snapping when cold water is spilt upon it, from its having expanded when red hot, and contracting suddenly when cold, is effectually obviated by the longitudinal and transverse grooves seen in the figure, which allow for the expansion and contraction of the metal. In these grooves are fitted small fillets of iron, so as to prevent the smoke ascending



through them. Over the fireplace is an oven on the same principle as those already described. The cisterns (*t t*), on each side of the fireplace (the left-hand side is broken off, as it is merely a repetition of the right-hand side), have transverse frames, which slide along grooves in the sides, so that each cistern may be divided into three, four, or more parts, as occasion may require, and various-sized tins accordingly may be used. From the cisterns on one side there is a pipe (*u*), which passes through the wall (*v*): this pipe will carry boiling water to a very considerable distance; so that, by having another cistern beyond the wall (*v*), cooking may be performed by the mistress or housekeeper, in a different room from that where the fire is, and whence the boiling water is supplied.

It is well known that a false bottom to a grate causes a great saving in fuel, because the fire is by it brought in closer contact with the bottom of the pots or pans placed on the grate; but at times, when roasting is to be done, the whole depth of the grate is required. In order to save the waste of fuel occasioned by neglecting to put in the false bottom when no roasting is wanted, and to obviate the inconvenience of having the fire deranged when roasting is required, Mr. Weeks's plan of a false bottom will be found effectual.

Fig. 23. is a false bottom connected with the grate; *w w* are screwed on to the cheek; and, by turning round the handle, which is put on the axle (*x*) of the wheel, the false bottom, which has a thin edge, will make its way forward through the fire, and may be drawn back at pleasure. The thin edge, when pushed forward, rests in a groove in the other end of the grate.



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The advantage and convenience of Mr. Weeks's cooking apparatus can only be appreciated by those who have seen it in use; and the great saving to the poor man in the "cottager's cooking apparatus," by having two boilers and an oven heated without any additional fuel, and at the same time all the usual advantages of his fireplace, only requires to be known to be generally adopted.

Bayswater, Jan. 10. 1835.

REVIEWS.

Art. I. *A History and Description of the late Houses of Parliament and ancient Palatial Edifices of Westminster, including a particular Account of those Buildings, with their official Appendages, from the Anglo-Saxon Dynasty to the final Arrangement of the National, Parliamentary, and Legal Courts, at the same Place.* By John Britton and Edward W. Brayley, Authors of numerous Antiquarian and Topographical Publications; Fellows of the Society of Antiquaries of London, and of several other Societies. No. I. 8vo, 32 pages, and 4 beautifully engraved steel plates. London, 1835. 2*s.*

The respected names of the authors of this work are a sufficient guarantee for its excellence; and the price is so low that it must require a most extensive sale to remunerate them. In order to give our readers some idea of its contents, we shall make an extract from the authors' address to the public, and leave the work to that patronage which it cannot fail to receive.

> " The design is to develope the genuine history of the *Palatial and Parliamentary Buildings of Westminster*, by a diligent enquiry into their origin, appropriation, and architectural characteristics, and by an earnest endeavour to furnish an insight into the relative states of courtly and national society at different periods. Towards effecting this desirable end, it will be necessary to resort to every available source of authentic record, both manuscript and printed, and to place before the reader such a distinct narrative of essential facts, as may at once to awaken his curiosity, inform his mind, and satisfy his judgment. In the first place, it will be expedient to adduce such evidence, and narrate such particulars, relating to Westminster generally, and its monastery in particular, as may tend to elucidate, or at least to indicate, its original and progressive occupancy as the national seat of royalty. For this purpose, we shall have occasion to lay before the reader many passages from ancient records and from the monastic chronicles, and these will be given with the most scrupulous attention to names, dates, and references, as the only specific mode of satisfying the critical antiquary and historian."

Art. II. *Elementary and Practical Instructions on the Art of building Cottages and Houses for the humbler Classes; an easy Method of constructing Earthen Walls, adapted to the Erection of Dwelling-Houses, Agricultural and other Buildings, surpassing those built of Timber in Comfort and Stability, and equalling those built of Brick, and at a considerable Saving. To which are added, Practical Treatises on the Manufacture of Bricks and Lime; on the Arts of digging Wells, and draining, rearing, and managing a Vegetable Garden, Management of Stock, &c.: for the Use of Emigrants, to the better Lodging of the Peasantry of Ireland, and to the Improvement of those Districts to which the Benevolence of Landed Proprietors is now directed.* By William Wilds, Surveyor, Hertford. 8vo, 143 pages, 6 lithographs and 27 woodcuts. London, 1835. 7*s.*

The length of the title of this work precludes the necessity of our explaining what it is. In the preface the author informs us that his "chief object is to promote the comforts and welfare of that class of his fellow-creatures who, through choice, or the force of circumstances, are led from their native country, and thrown into the solitary forest or the howling desert, in search of that reward for their industry and exertions which their own country no longer affords them." The author is a practical builder and surveyor; and he has not only passed the greater part of his life among bricks and mortar in this country, but he has been in America. He has given such plain directions for building earthen walls, that any labourer may carry them into execution; and when we consider the liability of log houses to be destroyed by fire, we feel assured that this work will be a most valuable one, both to the emigrant and to the settler in any newly colonised country, which is not sufficiently advanced to have houses of brick or stone. Directions are also given for building log houses, and also framed houses; the latter being an intermediate step between the log house and the brick house, at least in external appearance; though said by a Backwoodsman, in his *Sketches of Upper Canada*, to be "the most uncomfortable dwelling ever man lived in."

> "There are different kinds of houses in Canada, about which a few words may be useful to the settler. Most of the houses, more particularly those of recent settlers, are built of logs. When a man gets on a little in the world, he builds a frame-house, weather-boarded outside, and lathed and plastered within; and, travelling along the road, you can form a pretty accurate estimate of the time a man has been settled by the house he inhabits; indeed, in some instances, you may read the whole history of his settlement in the buildings about his farm-yard.
>
> "The original shanty, or log hovel, which sheltered the family when they first arrived on their wild lot, still remains, but has been degraded into a piggery; the more substantial log house, which held out the weather during the first years of their sojourn, has, with the increase of their wealth, become a chapel of ease to the stable or cowhouse; and the glaring and staring bright red brick house is brought forward close upon the road, that the frame dwelling, which at one time the proprietor looked upon as the very acmé of his ambition, may at once serve as a kitchen to, and be concealed by, its more aspiring and aristocratic successor; just like a man who, having acquired wealth from small beginnings, is anxious to conceal from the world the gradations by which he rose, and to exhibit only the result of his successful industry.
>
> "If you can afford to build a brick or stone house at first, by all means do so; but if you cannot, take my advice, and, like a good fellow, don't build a frame one. It is the most uncomfortable dwelling ever man lived in."

Chap. III., *On the Manufacture and Choice of Bricks*, contains one of the best accounts of the London practice of brickmaking which we have anywhere seen, and which will be of great value in our provincial districts, as well as in new countries. The author does not appear to have seen Bakewell's work on brickmaking, or his pressing machine, noticed in Vol. I. p. 312.; for all that he says on the subject is, "there have been several patents taken out for moulding bricks by machinery, but we suspect they have not answered the expectations of the projectors."

Chap. IV., *On the Properties, Uses, and Manufacture of Lime*, is equally valuable with that on bricks. We wish the author had seen the Closeburn limekilns; because, if he had, we think he would have recommended them in preference to all others. His observations on the subject of kilns, however, are valuable, and, like those on every other subject discussed in his work, altogether unprejudiced and dispassionate. Much has been said of the mortar of the Greeks and Romans, its durability, and the length of time taken to prepare it. Mr. Wilds is of opinion that the secret of its superiority lay in the compression given to it by beating it in basins. This is also the grand secret of the art of building in *pisé.* The more the moist earth is compressed by beating, the nearer do the walls formed of it approach those of brick or stone. The Roman theory, however, is entirely a mechanical one, and is by no means applicable to the lime mortars of the present day, however much it may be so to *pisé* or to mud mortars. Mr. Wilds justly observes,

> " For making mortar, the lime should be used as soon as possible after being taken from the kiln, for if left long after exposed to the air, it will separate, first into small lumps, then into a fine powder, and in this state will make but a very inferior mortar, because it has already again absorbed as much carbonic acid as it can possibly contain, and, consequently, when made up into mortar, it has not the power to absorb any more; although it is as necessary to give strength to the mortar when drying, as it is injurious to the lime in its unslacked state, rendering it little better in effect than a composition of chalk or limestone, reduced to a powder from the crude state, would have in place of it.
>
> " There is a difference of opinion among practical men as to the proportions of lime and sand to be used in making mortar; that of three measures of sand to one of lime being most approved, provided the ingredients be good and well beaten. Qualities, however, will differ in degree; therefore the best guide will be to use no more lime than will be sufficient to surround the particles of sand, and give the mass the necessary degree of plasticity, or, as workmen would say, make it hang together.
>
> " Mortar in which sand predominates requires less water in preparing, and therefore *sets* sooner; it is harder, and less liable to crack in drying, for this reason, that lime mixed with water shrinks in drying, while sand retains its original magnitude.
>
> " The best mortar for dry building is thus prepared :—Take well-burned lime fresh from the kiln, in which state it is called *quicklime*, strew any quantity at a time, say a bushel, on a stone floor, and pour water equally over the whole till it is saturated, or will absorb no more; turn it up in a heap with a shovel, when it will crack and snap, and steam will begin to issue from it; cover the heap over with clean sharp sand, say three bushels, taken from the bed of a running stream, or washed in clear water through a sieve, which will confine the steam and heat; proceed in like manner with the remainder, and then let it rest for a time. In this state it generates a powerful heat, which it keeps up long enough to cook a joint of meat by. This method of cooking is sometimes resorted to by workmen when the heap is large, in which case they enclose the meat in a tin box or a cloth, to keep it clean; and although the heat is not of an inflammable nature, it may be made to communicate fire to

wood or other light substances, through the agency of iron; thus a quantity of quicklime being slacked and turned up against a boarded fence or building, will set fire to the same through the agency of the nails, which will be rendered red hot, or nearly so, by the heat of the lime. During this time the decomposition of the lime is going on; when it is completed the heat begins to subside, and the lime is reduced to an impalpable powder, and is in this state called *slacked lime*. It is then turned over with a shovel so as to mix the lime and sand well together, and sifted or screened, the parts left behind being pieces of limestone which have passed through the kiln unburnt, or partially so, is called *lime core*, and should be thrown aside; but by some is thought too valuable, but is beaten to a powder and added to the mortar solely with a view to increase its bulk; the quality of it, where there is much of this core, being thereby proportionally deteriorated: clear water is then added, and the whole is thoroughly mixed by being repeatedly turned over and *chafed*, or drawn down with a shovel. If a superior mortar is required, it is afterwards beaten with a wooden beater upon the stone floor. When it is required for plastering, a quantity of hair from the hides of bullocks is stirred in and mixed with the mortar, by means of a double-pronged hook, like a hay-fork, with the tines or prongs turned downwards."

Speaking of cements, the author truly observes, that mortar made of good lime and clean sharp sand may be successfully employed for the same purposes as Roman cement, provided it be allowed sufficient time to dry before water is permitted to act upon it. This was mentioned many years ago, by Arthur Young, in his *Agricultural Survey of Lincolnshire*, and we have seen it proved in a variety of instances. In stuccoing the front of a house in or about London, for example, no builder need ever have recourse to any of the metallic cements, including, under this term, Roman cement, Parker's cement, Hamblin's mastic, and all other quick-setting cements (which are only quick-setting in consequence of their containing some metallic oxide), provided he can procure the best stone lime from Dorking or Aberthau. For our own parts, we should have more confidence in the durability of stucco, so formed, than in that of any of the cements.

Chap. v. treats of *Well-Digging*, *Draining*, &c., and includes a variety of useful information on the subject of cropping gardens; taken, with our approbation, from our *Manual of Cottage Gardening, Husbandry, and Architecture;* a work which we published at cost price (1*s.* 6*d.*) for the benefit of cottagers, and of which we have the satisfaction of knowing that upwards of three thousand have been sold.

The plates in Mr. Wilds's work are neatly engraved, and the designs plain and well arranged. Design VI. was contributed by Mr. Wilds to our *First Additional Supplement to the Encyclopædia of Agriculture*, where we have shown it (fig. 1197.) with the chimney top somewhat higher than in Mr. Wilds's design.

We should have recommended this work both to emigrants and architects, had it only contained the chapter on building in *pisé;* but finding, also, the two very excellent chapters on bricks and on lime, we certainly have no hesitation in saying that it deserves to be in the library of every young architect and builder, and in that of every landed proprietor, in remote parts of the country, who possesses brick earth on his estate.

Art. III. *Hints for preventing Damage by Fire, in the Construction and Warming of Buildings.* By Alfred Beaumont, Architect, Surveyor to the County Fire Office. Pamphlet, 8vo, 67 pages. London, Weale, 1835.

This is a very interesting and important pamphlet; and we sincerely wish that any thing we could say in its favour would induce every architect, surveyor, and builder to peruse it; and, what would be more effective towards attaining the ends it has in view, every person who intended to purchase or take a lease of a house. Very few persons who occupy London houses are aware of the difference between a house that is in perpetual danger of being burned to the ground, and a house where that danger is greatly diminished. It has happened to us to have been several times the occupant of a house which has caught fire; and more than once we have narrowly escaped perishing in the flames. This has caused us to think much and deeply on the subject; and we are therefore the more impressed with its importance. We are also, as we conceive, the better able to judge of the merits of Mr. Beaumont's pamphlet; for, independently of our personal experience, there is not a work which has been published on the subject, either in the English or French languages, which we have not perused with attention. As a proof of this, we may refer to our *Encyclopædia of Cottage Architecture*, and more especially to the last chapters.

There is nothing which Mr. Beaumont has brought forward that we were not already well aware of; but he has placed the whole in such a clear, concise, and practical point of view, as cannot fail to make a strong impression on those who have not leisure, opportunity, and, perhaps, not inclination, to read larger works on the subject, and to reflect on what they read.

In former times, when building a house was an affair which seldom occurred to a man above once in his lifetime, endeavours were naturally made, both by the proprietor and the builder, to execute the work in what was considered the best manner, relatively to the ideas of the time; but, within the last fifty or sixty years, society in this country may be said to have been in a state of transition; and the man who builds a house at the age of thirty or forty, commonly requires one of a different and superior description by the time he has arrived at fifty or sixty. This soon led to the adoption of building houses as a distinct trade or profession; and, consequently, to that extension of business commonly designated speculation. Within the last forty or fifty years, thousands of houses have been built in and about London, for no other purpose than to sell. This is all in the natural course of things: it is fitting that houses should be built and brought to market, as well as other goods; but it is consequent upon this state of things, that, unless the purchasers in the market are judges of the article they are in want of, they will be deceived by the seller. We shall not enlarge on this subject; the causes and the consequences have for some time been well known to the public. We shall proceed at once to our conclusion, which is, that, till the purchaser and renters of houses are better judges of what they ought to be, than they are at present, better houses will not be brought to market. That the public knowledge is improving in this respect is beyond a doubt; and Mr. Beaumont's pamphlet, if it obtains that circulation which it deserves, must infallibly contribute to its extension.

If we thought this pamphlet was not likely to be perused by all architects and surveyors, we should be tempted to give the essence of it; but we think too highly of the profession, not to give them credit for a desire to procure the work as soon as they know what it is. We shall, therefore, give little more than the contents of its different chapters.

" Chap. 1. The public buildings of the Romans afford the best examples of fire-proof construction, as well as of durability. Their domed temples and arched chambers still exist, although repeatedly subjected to fire. Peculiar excellence of their bricks and mortar. The arch and vaulted roof unknown to the Greeks and Egyptians. After the overthrow of the Roman empire, only wood and thatched buildings were raised, until the ninth century. The pillars, arches, and vaulted roofs called Saxon, a coarse imitation of the Roman. The walls and vaulting of Gothic buildings are very durable and secure from fire. Timber-framed buildings. Insecurity of modern brick buildings. Brick nogging, bond timber, and quarter partitions, a modification of the old timber-framed houses. Daily firings; from timber lying near and in flues; from bad brickwork; from discharging pieces in chimney breasts; from trimmers and plugs thrust into flues; from battened walls; from strong fires in common flues; from pockets and vacuities in brickwork; from combustible rubbish in setting grates; from flues run up, for hot plates, coppers, and hall-stoves, against contiguous timber; from iron smoke-pipes; from descending flues; from gas; from the carelessness of workmen.

" The public buildings of the old Romans still remaining offer the best specimen of fireproof construction, as well as of general durability, of which we have any knowledge. Although repeatedly fired, battered, and destroyed, as far as the efforts of barbarous enemies could effect their destruction, numerous portions of buildings, and some entire temples and mausoleums, still remain to attest the superior construction of the ancient over modern buildings. The portico to the baths of Agrippa, now the Pantheon, and the mausoleum of Hadrian, now the Castle of St. Angelo, are admirable instances of the strength and durability of their circular buildings with domed roofs; while the magnificent halls in the remains of the baths of Titus and Dioclesian, and the golden palace of Nero, are equally valuable specimens of oblong buildings with arched roofs. The walls of these buildings have the strength and solidity of natural rock; most frequently they are composed of two facing walls of brick, a brick in thickness, leaving an interval between them, which is filled up with coarse grout-work: sometimes the facing walls are composed of small pieces of tuffa (a freestone): these walls have been occasionally faced again with fine marble. The walls of some of the principal buildings are composed of immense squared blocks of travertin (a porous marble of the country). The bricks are invariably sound and hard; their shape the large flat tile, the work with which is less liable to give way and bulge than with bricks of the modern shape. The mortar is perfect, and the joints completely filled: the grit of the mortar appears to be pounded tile, or tuffa, always sharp and clean; and the grout-work consists of broken tiles, and sometimes tuffa, embedded in mortar of the usual thickness, not flooded with a fluid mortar approaching to whitewash, as is now in use under the name of grout. That the mortar was not used in a fluid state, is visible in numerous fragments where small interstices are discernible, showing the shape of squeezed mortar. The peculiar strength of the Roman mortar is remarkable. In most cases, the Roman walls are constructed like the trunk of a tree, broadest at the root and diminishing upwards, and, as is well known, when they raised their walls with grout-work, they usually ran a double layer of their large tiles over their work at the height of every two or three feet.

"In consequence of the care thus bestowed on the solidity of their brick and grout work, it is one compact mass: and, when a fracture does take place, it is not a separation of entire bricks from crumbling mortar, as with us; their adhesion remains intact; but it is a splitting of the mass, as that of one entire rock: the marble incrustations or inlayings on their walls gave way to the effects of the immense fires which were lit within as well as without the buildings; their marble columns were scathed, and their surfaces, reduced to lime, were splintered off by the fires; but the brickwork has remained sound to this day. The accretion of ashes, of rubbish, and of decayed vegetable matter, during fourteen centuries of desolation, caused these buildings to be wholly or partially buried in a new soil. Even now, the plough passes over the roofs of several of their imperial halls, but, as the rubbish within them is excavated, their structure is found unimpaired; they are without fissure or fracture; and, in some of them, the fresco painting on their stuccoed interior is as fresh and unbroken as if it were but lately come out of the hands of the artist.

"The buildings of ancient Greece have not the fireproof merit of the Roman buildings, as the Greeks were unacquainted with the art of raising vaulted roofs, or even common arches. The stone or marble roofs of their principal buildings were supported by massive timber framing, which was frequently destroyed by fire; their walls, however, constructed of solid masonry, and of exquisite workmanship, remained; and the buildings became restored to use upon the putting on of new roofs. These roofs are now wholly gone; but the magnificent columns and the admirable masonry of the walls of their temples have in great part withstood the battering artillery of successive conquerors, which, more than fire or time, has caused the dilapidations we so much deplore."

"Chap. II. Remedies proposed. Prohibition of timber in party walls, or, at least, within fourteen inches of a flue. An improved brickwork, hard bricks, and strong mortar, only. No puckets or vacant chinks to be suffered in party walls. Corbels and iron ties to be used for the support of timber near flues. Stuccoing instead of battening and lathing the walls. Stone stairs. Precautions for furnace chimneys. For iron smoke-pipes. Against accidents from gas. Against carelessness in workmen."

This is a most important chapter; and it is one which every occupier of a house ought to read, and to remember. We wish Mr. Beaumont had quoted the case referred to in our article

(Vol. I. p. 40.) "On rendering lath and plaster partitions fireproof." We happen to know the private history of that case, which it is dreadful to contemplate.

"Chap. III. Methods of constructing buildings fireproof. Party walls a valuable protection from lateral risks. Incombustible ceilings an equal protection between floor and floor. Common brick vaultings effectual. Brick arches, in series, sprung from iron beams. The method of construction described. York landings in iron bearers. Iron doors. Iron roofs. The fireproof principle may be adopted, with economy, in various hazardous trades and depositories of valuable property. May be partially adopted, with good effect, in all extensive buildings. Might have limited the destruction of the Houses of Parliament to a small extent, had it been provided. Different modes of fireproof combined at the County Fire Office."

The County Fire Office, designed by, and executed under the direction of, Mr. Abraham, and one of the most dignified edifices in Regent Street, is adduced as an example of fireproof construction; as it may also be, of excellent interior arrangement, Mr. Abraham having been assisted in devising the plan by the founder and managing director of the Institution, Mr. Barber Beaumont.

"Chap. IV. The means used for heating buildings frequently set them on fire. Great waste of fuel in open fireplaces. The Roman method of heating the best. Vitruvius on heating. Description of the caldaria at Pompeii. Swedish and German stoves. French stoves. Braziers in Italy and Spain. Heating by hot air. By steam. By hot water. Mr. Perkins's patent hot-water apparatus. Trials of different methods at the County Fire Office. Satisfactory result. A method described by which the required degree of warmth is obtained, free from impurity, dirt, or dust, with a twelfth part of the fuel usually consumed. Important discovery for the heating of all churches, chapels, hospitals, gaols, and other large buildings, as well as private dwellings."

"In looking over the baths of Pompeii, for example, we find that the caldarium, a hot air chamber, was heated in the following manner: — the whole of the floor, consisting of stone flags, three or four inches thick, is raised upon brick piers, nine inches square and about nineteen inches high, leaving a vacancy of that depth beneath the floor; the surface of the floor is stuccoed over to the thickness of about an inch; round the walls of the room there is a casing of tiles set on edge, and securely fixed with iron ties to the wall, but so as to leave an interval of a few inches between them and the wall, and these tiles are also stuccoed over; then the flues from two boilers, which have been placed on the outside of this apartment, open beneath the floor, and the draught of heat, diffusing itself there, ascends between the wall and casing on the opposite side, and finds an exit at the top. This principle of heating the hot room of their baths, under various modifications, appears to have been universal among the Romans, and nothing could be better adapted for the purpose. The bathers being accustomed to walk, sit, and converse, naked and barefoot, in these rooms, it was necessary that the heat should rise through the body of the floor itself, — and this it did copiously and with purity; and as this draught of heat was only a continuance of the furnace and flue, after they had done their work in heating the boilers, it was an economical application of the surplus heat, which, had there been only a common chimney to the furnace, would have passed off in waste.

"A detailed account of the construction of these Roman hot-houses is given in the works of Vitruvius. These heated rooms, on a smaller scale, appear to have been provided in every Roman villa, and they have been discovered in England, wherever the remains of Roman habitations have been found."

We have examined the bath at Pompeii alluded to, and it is singular that it corresponds with the mode of heating the floors of houses practised in China, as described by Du Halde and others. From reflecting on the principle of both modes, the idea occurred to us of heating the floors of cottages, detailed in our *Encyclopædia*, which is literally the same as that recommended by Mr. Beaumont, and which, whenever fuel becomes scarce, will be adopted in every description of human dwelling. It is only by such a mode of heating the floor by flues, that every man may grow his own fuel on less than an acre of ground. See a *Manual of Cottage Husbandry, Gardening, and Architecture*, &c.; 8vo, London, 1830, 2*s*.

In describing the hot-water apparatus of Mr. Perkins (p. 50.), there is a mistake which ought to be corrected in a second edition. It is said that the safety of the pipes depends on their being "entirely filled with water. If a little of the water were to escape, the pipes would burst." Now the horizontal pipes are entirely filled with water; but there is a vertical expansion tube which is empty, and into this the water expanded by the fire into high-pressure steam is allowed to rise, otherwise the pipes would infallibly burst. The mode of heating by Chabannes, noticed p. 48. and p. 49., is not described with sufficient clearness. The immense danger of having a close boiler, communicating with a supply cistern at the top of the house, ought to have been pointed out.

"In all modern applications of heat there are two great defects. The first is most obvious in the heating of churches, chapels, and all large chambers having stone floors. However large the fires may be, and the volume of heat they deliver, there will always be an ingress of cold air (in cold weather), and this will form a stratum over the pavement of the building. The strongest heat will rise to the highest space above; the air which is the least warmed will remain in the lower portion of the building; and the *last cold air that steals in will rush along the pavement, and always keep that part cold.* Hence, although a man feel warmth to his face, his feet will suffer from the coldness of the pavement. In short, that part of his body will be dangerously chilled where warmth is most important. The second defect is, *the great waste of fuel in proportion to the heat gained;* at the least eleven parts in twelve of the heat generated passing, in waste, up the chimney.

"A history of the warming of the County Fire Office will illustrate these facts in a striking manner. About fifteen years since, Mr. Silvester's hot-air apparatus, which has been already briefly described, was introduced into the building. After a short time, owing to defects in the cockle, flame mixed with the hot air, and set fire to a quantity of shavings and chips, left by the carpenters in the hot-air chamber above the cockle, which, extending through the flues, would have fired the house, had it not been constructed fireproof. Subsequently, so much smoke mixed with the hot air, through chinks in the joints of the cockle, that, after two years' endurance and tinkering, this apparatus was removed. Another inventor then had leave to try his steam apparatus; but, after a similar probation, the inconvenience occasioned from defects in the work, and from the condensation of the surplus steam in the flue, and the great consumption of coal, determined the directors to have that also removed. The hot-air stove and the steam apparatus each raised the required degree of warmth in the office, but subject to many annoyances, and a great consumption of fuel. A mode of heating was then contrived, which has been followed by the most complete success, and which is invaluable for warming all buildings having incombustible floors.

"It was remarked that, under the hot-air and steam-heating systems, although the air in the office was sometimes too hot, still the clerks always complained of cold feet. They had mats given them to stand on, and they frequently left their desks to get a warm at the hot-air vents or the steam-case; but still their feet were cold. It was considered that this could only be overcome by causing the heat to arise through the paved floor itself. The mode of heating the caldaria of the Roman baths proved the practicability of that mode of heating. This was farther corroborated by the evident warmth of the pavement in the streets over bakers' ovens. A flue was accordingly constructed under the paving of the office, the paving-stones themselves forming the roof of it. The area of the flue is a foot square: it begins on one side of the office, travels under the pavement along that side, across the top and down the other side, where it enters an upright flue in the party wall. The course it takes is shown in the dotted line in the plan, in page 39. In this course, it passes under the feet of the clerks, which it keeps comfortably warm; the heat being filtered, as it were, through stone, and being uncontaminated by heated metal, it arises in the utmost purity. There is no longer a difficulty in keeping up the heat to a required pitch; the warmth is so considerable from a mere handful of fire, that the difficulty has been to keep it low enough without putting the fire out. The fire office and principal staircase are kept comfortably warm, during the winter, at an expense of less than 30*s.* a year, or about 3*d.* a day for the cold season. A similar degree of heat from the hot air, and afterwards from the steam apparatus, cost us 18*l.* annually. This new mode, giving an equal degree of heat, requires only a twelfth part of the fuel consumed by the common furnaces. Persons coming in from the open air have complained of our keeping such large fires. When they have been shown that the only fire we had, was a little fire which was burning without fierceness, and might be contained in the crown of a hat, they have denied their belief of the fact, and insisted that the warmth which they felt must have been procured from some other supply. It really does appear like magic; but the case proves this important fact to a demonstration, viz., that only one part in twelve of the heat evolved from the fuel consumed with the hot air apparatus, and afterwards with the steam-boiler, went to the heating of the place intended; while the great remainder, the eleven parts of the twelve, went with the draught up the chimney, and was wasted above the house-top.

"As this method of heating buildings is equally excelling in the purity of the heated air; in the beneficial way in which it is delivered (through the floor); in safety from fire; in preservation from smoke, dust, and dirt; and in economy of fuel; it cannot fail to be generally used wherever it can be applied.

"This method of heating will not, however, as our houses are now built, admit of general application. It can only be used where the floor and the ceiling beneath are of incombustible materials. For all churches, chapels, hospitals, workhouses, gaols, and other buildings where there are vaulted basements and stone floors, this mode is invaluable. It is, indeed, the only principle on which places with stone floors can be properly warmed. In all private dwellings where there is a vaulted ceiling under the hall, these flues may be introduced beneath the paving with the best effect.

"If it be desired to make a house comfortably warm, the only way is to have a body of heat issuing from the pavement of the hall; from that all the passages and stairs above will be readily supplied; and, when a room door opens, instead of having to shrink from a cutting rush of cold air, there will be a new accession of warmed air. Every one must be sensible of the severe colds which are caught by persons who, while heated by a large fire or crowded room, have a cold draught of air thrown upon them from the opening of the door; or who have to leave a hot room, and walk up or down a staircase, where the air is as cold as in the streets, and more piercing from the draught."

Mr. Beaumont has described a stove, in use in the County Fire Office, for heating the flues under the pavement, which appears a very good one. Its management, he says, is "neither difficult nor troublesome in the hands of any intelligent servant." (p. 55.) The difficulty of getting this intelligent servant is, however, the great impediment to the introduction of improvements; and it can never be done away with, in this or in any country, till a system of superior school education becomes general. From what we have seen of Witty's smoke-consuming furnace in the case of hot-house fires, we are convinced it would require less nicety of management than the one adopted at the County Fire Office; and we feel confident also that it would more effectually burn the smoke. We are surprised that Mr. Beaumont has made no mention of this invention, which has been for some years applied to different breweries, distilleries, and manufactories about London, Birmingham, Manchester, &c., and found to produce a great saving of fuel, as well as almost entirely to consume the smoke.

An Addenda contains Notices circulated extensively by the County Fire Office respecting "Accidents from the firing of women's and children's clothing;" and directions how "to escape from the upper chambers of a house on fire."

We conclude by expressing our ardent desire that this work may be read and digested by all architects, surveyors, and builders; and by all heads of families. For this purpose, we could wish that its contents were copied into the newspapers, magazines, and penny publications of the day. This, we feel confident, would be gratifying to Mr. Beaumont, in proportion as it tends to promote the enlightened and patriotic objects he has in view.

Art. IV. *Entwurfe von Schinkel.* 22s Heft.

This new number of Schinkel's designs contains plans, elevations, and sections of St. Nicholas's Church at Potsdam; and of four other churches at Berlin. The latter are by no means favourable specimens of the architect's style: they exhibit certain of his least pleasing peculiarities, with very little of his wonted excellence. This, however, will excite less surprise, when it is understood that, after being commissioned to prepare designs for two larger churches, he was unexpectedly directed to cut them down very much, and to make designs for two others, with all possible expedition; being at the same time compelled not to exceed the sum intended for the two buildings only. The church of St. Nicholas has likewise been greatly altered from the original project for it (which is the one here shown). At first it was to have been crowned by a dome of exceedingly lofty proportions, placed on a double tambour, the lower one of which would have been surrounded by a grand peristyle of twenty-eight Corinthian columns, and the extreme height externally would have been 200 ft., the interior diameter about 60 ft. Although these dimensions are not very extraordinary, yet this cupola would have appeared of unusual magnitude, owing to its size compared with the church itself. The latter, which has been completed according to the original intention, is in its general external form a perfectly square structure of 115 ft. by 83 ft. in height to the top of the cornice; with the addition of a hemicycle (56 ft diam.) on the east side, forming the altar recess, and a portico on the opposite or entrance side. Internally spaces are taken out at the angles for staircases, &c.; by which means the plan is made to partake in some degree of that of a Greek cross. The portico, which is Corinthian and hexastyle, with fluted columns, is 66 ft. wide, and projects 24 ft. in advance of the building behind it. In size, there is hardly any difference between this portico and that of St. Martin's Church, and the three doors are similarly placed in both; but here all resemblance between them terminates. In the one at Potsdam there are no windows, and the central doorway is exceedingly lofty, its cornice coming just below the soffit of the architrave. Fine as the architectural character of this portico is, this feature of the building can be considered as only secondary to the mass behind it, which appears colossal in comparison; and when this latter shall be crowned, as is now about to be done, with a larger pediment filled up with sculpture like the one below it, it can hardly fail to produce a very powerful effect of grandeur. An elevation of the church in that state will probably be given in a future number, and also some plates of the details: of these many appear to be rather singular, but it would be hazardous to express an opinion of them, until we behold them represented on a larger scale than they are here shown.

ART. V. *Catalogue of Works on Architecture, Building, and Furnishing, and on the Arts more immediately connected therewith, recently published.*

BILLINGTON'S *Architectural Director*, &c.; Part IX.

This ninth part, which we have duly received, contains about the same quantity of matter, and the same number of plates, as the others. The Treatise extends to p. 336., and the Dictionary, or Glossary, to the word "Timber" in p. 96.

Laxton's Improved Builder's Price-Book, &c. 8vo, ninth edit., 158 pages. London, 1835.

In this new edition, considerable alterations and additions have been made in the bricklayer's, carpenter's, and plasterer's work, and several corrections in most of the other trades; also an extract from the Chimney Sweepers' Act, which is most important to builders. "If there be any doubt upon the equity of the prices contained in this work, the author will be ready to enter into any calculation or explanation to prove the correctness of them; or will introduce tradesmen of known integrity, and of the utmost respectability, to undertake the execution of any part of the works at the prices stated. The author is constantly receiving numerous applications from the country for advice or instructions as to particular modes of valuing or measuring works connected with buildings, or valuing of property, which considerably intrudes on his time; in future, a charge of a guinea will be made for an answer to any such communication." (*Preface.*)

A correspondent informs us, that this work contains "a fourth more prices than any other work, numerous tables and memorandums, an extract from the Chimney Sweepers' Act [which we shall give in an early Number], and two useful tables, like those compiled by Mr. Inwood from Baily, Smart, and similar works, on valuing estates and annuities."

Hartley, David, Esq., formerly M.P. for Hull: An Account of the Invention and Use of Fire Plates, for the Security of Buildings and Ships against Fire. Pamphlet, 8vo. London. 1*s.*

We have not seen this pamphlet; but, from the title, we conclude it is the same as that mentioned in our *Encyclopædia of Architecture*, referred to when treating of fireproof buildings, § 2189.

Barlow, Peter, Esq., F.R.S., Corr. Memb. Inst. France, &c. &c.: Report on the Present State of our Knowledge respecting the Strength of Materials. [From the Report of the British Association for the Advancement of Science, for 1833.] Pamphlet, 8vo, 11 pages. London, 1833.

From this pamphlet "it appears," as a correspondent has observed, "that no correct experiments have yet been made on timber, and other materials, when employed with the force of compression applied parallel to the length of the fibres, when the beam is of great length in comparison to its section; as in story posts, &c. Perhaps, by your noticing this curious fact in your journal, it might induce some one to make a series of experiments, as it appears strange that we should have been building so long, in large towns, shops and stacks of warehouses wholly supported by story posts, &c., without any means of knowing whether they would be of sufficient strength to carry the enormous weight supported by them or not." — *W. J. S. London, Dec.* 1834.

A Compilation of splendid Ornamental Designs from foreign Works of recent Production, adapted for the Study of Drawing; to assist the Artist and Decorator; and to aid in the various Manufactures where superior Ornament is required. Folio. Parts VII. and VIII. London, 1834. 1*s.* each.

We have noticed the preceding numbers of this work in I. 137. and 371.; and, now that it is completed, we cannot do better than give the following extract from the preface: —

" The collection consists of designs which were originally intended for particular purposes, and mostly have been executed upon the Continent. It exemplifies the admired style of Percier and Fontaine, or what may be termed the modern French style; and contains various examples of painted panels, carpet patterns, transparencies, embroidered chair covers, enriched entablatures, ornamental table-tops, carved-work borders, &c. Although, in many instances, these may be inapplicable for precisely the same purposes as those for which they were at first intended, yet they will be found eminently serviceable for selection and adaptation; this being the chief object of the work: and, with the consideration that they would generally be applied to other uses, it was thought unnecessary to state for what they were designed originally, or to give letterpress descriptions of each; especially as it might rather tend to confuse the ideas when making selections and arranging new combinations.

" The style exemplified in this work is, perhaps, above all others, most suited to embellish British works of art; it combines grandeur with delicacy in detail, which fits it equally for large designs and for small and most fanciful objects. Its foundation is that of the Grecian, and will therefore be less at variance with the general style of building: hence it is peculiarly adapted to the present age, and to meet the increasing demand for articles of superior ornament. By its chaste and classical combinations, it is also greatly calculated to keep pace with modern improvement, the great progress of refinement, and the rapid advancement of taste.

Art. VI. *Literary Notices.*

Carter's Ancient Architecture has just been reprinted in a 4to size, containing the same number of plates as the old edition. Price 4*l.*; or, with the letterpress, 8*l.*

Crosses of England. — Mr. Owen B. Carter is engaged on a

Series of Views illustrative of the Crosses of England. Winchester and Chester are now ready, very finely drawn on stone, by Haghe. Price 4*s.* each.

The Organ Screen of York Cathedral. — Mr. F. H. Abrahams has engaged with Mr. Henry Shaw to engrave the splendid Organ Screen in York Minster, from an original drawing by Mr. Abrahams. It will be engraved in the first style of art. The subscription book already contains 250 subscribers; and it is now open for the insertion of names, at Williams's Library of the Fine Arts, Charles Street, Soho.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

All Architecture is symbolical, but none so much so as the Christian architecture of the middle ages. The first and greatest of its objects is to express the elevation of holy thoughts, the loftiness of meditation set free from earth, and proceeding unfettered to the heavens. It is this which stamps itself at once on the spirit of the beholder, however little he may himself be capable of analysing his feelings, when he gazes on these far-stretching columns and airy domes. But this is not all: every part of the structure is as symbolical as the whole, and of this we can perceive many traces in all the writings of the times. The altar is directed toward the rising sun, and the three great entrances are meant to express the conflux of worshippers from all the regions of the earth. Three towers express the Christian mystery of a triune Godhead. The pulpit rises like a temple within a temple, with redoubled grandeur. The shape of the cross is common to all the Christian churches, even of the earlier times. The round arch was adopted in the earlier Christian architecture, but laid aside on account of the superior gracefulness supposed to result from the crossing of four arches. The rose, a mystical emblem, is an essential part of all the ornament of this architecture; even the shape of the windows, doors, and towers, may be traced to it, as well as all the accompanying decoration of flowers and leaves. When we view the whole structure from the crypt to the pulpit, it is impossible to resist the idea of earthly death leading only to the fulness, the freedom, and the solemn glories of eternity. (*F. Schlegel, on the History of Literature*, i. 339.)

Stenciling, instead of Penmanship, for the writing on Plans. — Allow me to recommend to the notice of your readers an application of the art of stenciling which will save a great deal of time in architects' offices, and be particularly useful to the younger members of the profession. Stencil plates may be made containing the words mostly used by architects and surveyors on their drawings, &c., such as plan, one-pair story, two-pair story, &c., of any size, and of several varieties of printing or writing; and the principle may be extended to borders for plans, points of the compass, heraldic crests, &c. The method of using the plates is to lay them flat on the paper, and, with a brush made for the purpose, to scrub the ink into the vacancies forming the letters. The process is extremely simple, and may be very easily learnt.

The credit of the application is due, I believe, to Mr. Harris of High Street, Birmingham; and although similar plates are now made by many different persons, I am informed that his plates are much superior to the others. They are not expensive; and, with fair usage, will last for years.

I send you some specimens for inspection, done by myself after very little practice; and I think you will readily admit that they are neat enough for any plan or drawing. — *Pit.* *Dec.* 17. 1834.

The specimens sent are neat enough for ordinary purposes; and, not being exactly the same as written letters, they have a character of art about them which appears suitable for explaining works of art. This character of art arises from several of the letters, such as A, B, D, O, P, Q, &c. being necessarily divided into two parts; the letters, as our readers are no doubt aware, being cut out of thin brass plates. — *Cond.*

A movable Kitchen. — Sir Samuel Morland, who lived in Vauxhall House in 1765, being a great mechanic, displayed his skill in every part of the house. The side table in the dining-room was supplied with a large fountain, and the glasses stood under little streams of water. His coach had a movable kitchen, with clock-work machinery, by means of which he could make soup, broil steaks, or roast a joint of meat while travelling. When on a journey he was always his own cook. (*North's Life of the Lord Keeper Guilford*, p. 294.)

ART. II. *Foreign Notices.*

FRANCE.

PARIS. La Madeleine. — After a succession of interruptions and changes, the works have for some time past been carried on so vigorously that this noble edifice is now very nearly completed. Externally, very little, if any thing, remains to be done to it, and so far, therefore, its effect is fully visible. The front presents an octostyle portico with fluted Corinthian columns 60 ft. high, and there are similar colonnades along the sides, the entire number of columns amounting to fifty-two. This continuity of columniation produces a character no less solemn than rich, and which is greatly assisted by the omission of windows, the interior being lighted through the flat domes in the roof. Amplitude of forms, as well as extent, contribute to render this building one of the most classical pieces of architecture Paris can boast of. Even the Bourse, which, it must be confessed, has been greatly overpraised, looks very undignified, almost trivial, in comparison with it. — *W. H.*

Paris, Oct. 1834. — The more enterprising capitalists here are engaged in considering the best mode of executing a work, which seems to promise an immense return for the sums to be expended on it. This is a railroad from Paris to London, by which, with the exception of the time lost in crossing the water, one might go from London to Paris in little more than 12 hours. Of course the influx of visiters to Paris would be immense, and immense also would be the gains of the capitalists. The only difficulty is to know which route to take. Some propose the Dieppe road; and it is true that the distances between Brighton and London and between Dieppe and Paris are much less than those between London and Dover, and Paris and Calais; but then, *quel trajet par mer!* The horrible sea voyage between Brighton and Dieppe would be sufficient to deter any one from venturing; and the capitalists are generously willing to expend a little more money at first, to insure a greater and more certain return. The road through Amiens, Abbeville, and Boulogne is therefore likely to be preferred. By this route there will be above eighty miles of level road, not requiring any tunnel, or viaduct, or embankments; without, indeed, even a single hillock; and the proprietors of the land over which the railroad will pass are so anxious to obtain the preference, that the greater part of them have, unlike your short-sighted men of wealth, actually offered their land for nothing.

It is true, that, if the railroad be continued to Calais, there must be a tunnel at Colembert: but this is a trifling obstacle, compared with the immense advantage of a short, easy, and, it may be said, certain passage across the straits, as it is well known that a packet boat leaving Dover is quite sure of getting either to Calais or Boulogne in the same tide, the wind being always favourable for one port or the other; and this route, by embracing both ports, would render the passage certain of being effected within the given time. The other passage (by Dieppe) is far more uncertain, it being impossible to calculate, with any degree of certainty, on the length of time which will be required to cross between Dieppe and Brighton. According to the best calculations, the journey from Paris to London through Boulogne may be accomplished in 14 hours, allowing three hours for crossing the water and one for stoppages; and through Calais in 15 hours, allowing two hours for crossing the water and one for stoppages. By Dieppe the journey could not be accomplished under 17 hours; 8 hours being the least that can fairly be calculated on, for the voyage.

Another route has been proposed through Calais, Lille, and St. Quentin: but this would require two tunnels near St. Quentin; and, there being only one port open, the sea voyage could not be calculated with so much exactness. By this route it would take about 17 hours for the whole journey. The expense is estimated at about 7000*l.* per mile. — *F. S. Besson. Rue de Richelieu.*

Two Statues have just been elevated to the top of the triumphal arch in the Place du Carrousel, to complete the group of the triumphal chariot. They appear to be checking the speed of the horses, and are said to be the same statues that formerly accompanied the celebrated Venetian horses on that monument. (*Galignani's Messenger.*)

The twelve Statues of the Pont de la Concorde, which at present overwhelm the Chamber of Deputies, will be placed in the grand avenue of the Champs Elysées, between the Tuilleries and the Rond Point. The fosses of the place are to be filled up and covered with grass plots, on which porticoes will be erected, the elevation of which will not impede the prospect of this vast esplanade. (*Ibid.*)

The Monument erected to the Memory of the Duke of Berri, in the Rue de Richelieu, is now in progress of demolition. The marble on the premises is valued at 500,000 francs. (*Paris paper.*)

SWITZERLAND.

Suspension Bridge over the Saone, at Freyburg in Switzerland. — This bridge, which is to be one of the largest of the kind on the Continent, is to be 903 feet in length. The chains to it are already put up. (*Journal des Travaux Publics.*)

The Town of Geneva, stationary as it has been in its architecture for ages, is beginning to exhibit signs of improvement. Those unwieldy though picturesque projections, which darken the streets and prevent the free circulation of air, are forbidden to be renewed when a house is to be rebuilt. A new mode of paving the streets has been adopted, by which smaller stones are used, and a flatter surface produced, and one safer for horses. The sewerage is being improved, and gas has been used for some time, as it has in the town from which I write. — *J. W. D. Lausanne, Nov.* 26. 1834.

PORTUGAL.

Lisbon, Dec. 21. 1834. — There is little new in the way of architecture here, but several things very interesting with reference to the buildings of past times. The aqueduct of Lisbon is one of the finest monuments of antiquity, and one wonders to see it in such a country as this. This aqueduct is continued from the Riberia de Paranque, for a space of 10½ miles, to Lisbon. It is carried on arches over the valleys, and by subterranean passages through the hills. Across the valley of Alcantara, 1½ mile from Lisbon, it is supported by 35 arches; and, as these are the most magnificent of any on the whole route, I shall give a short account of them. The whole number of arches is 127.

The set of arches across the valley of Alcantara extends 821 yards; the height of the principal arch is somewhat more than 75 yards, and its breadth or width 36 yards. The water flows in two channels, each 12 inches wide and 12 inches deep, the bottom of which is rounded; but the depth of water in these channels is only about 7 inches. Between these channels is a walk or footpath, paved with fine stone: the whole is arched over, the covering arch being 13 ft. high. The duct is lighted and ventilated by means of turrets or square towers, with latticed windows, and occasional doors to admit workmen when any repairs are wanted. There are 16 of these turrets across the valley of Alcantara, each of which rises 23½ ft. above the roof of the aqueduct; and on the outside of the enclosing walls is a footpath, one on each side, about 5 ft. wide, reaching quite across the valley, and rendered secure by a parapet wall of a proper height.

This work was but little damaged by the great earthquake in 1755. It was begun in the year 1713, and finished in 1732. It is kept in repair by a tax upon butchers' meat, equal to the 30th part of a halfpenny on every pound. — *R. Evans.*

ART. III. *Domestic Notices.*

ENGLAND.

MIDDLESEX. — The want of a county hall, for the election of members of parliament, has long been felt; and, as the circumstance has lately been noticed by one of the sheriffs, we hope the want will be supplied at no great distance of time. There are two descriptions of halls, either of which we should like to see erected for this purpose. An oblong temple, somewhat after the manner of that of Birmingham, but without the external appearance of being of two stories, which is false with reference to the interior; or a circular building, with a dome in the centre, somewhat in the manner of a design given by Durand for a national temple, and which he presents in his work as preferable to the Pantheon at Paris. Whatever design may be adopted, we hope that money will not be thrown away either in stone or marble columns, or in casing the walls with any description of stone. There is not a greater incongruity in the art of building, in our opinion, than that of mixing stone and brick in the same edifice. Not that we would altogether exclude stone, for we have no objection to it as facings for openings, or for copings, and it is essential for steps; but on no account whatever would we case a brick wall with it, nor would we form columns of it, where economy was any object, higher than the plinth. Good brickwork, covered with cement, or merely with repeated thin coats of stone lime and sharp sand (Baillie's composition, as it is commonly called), is stronger as a whole, and it is far more durable than any stonework whatever, unless this stonework is in entire blocks. A nobler temple might be built on some rising ground in, or north of, the Regent's Park, entirely of brick and mortar, arched over, and with hollow copper doors and window frames, so as wholly to exclude timber, than has ever yet appeared on the face of the earth. A great mistake in modern buildings, in our opinion, consists in bestowing too little expense on the design, and too much, in proportion, on the materials. For example, the National Gallery at Charing Cross is being cased with a stone which is not one whit more durable than good cement, or mortar of stone lime and sharp sand; while the walls are not nearly so strong as if they had been wholly of brick, and yet much more expensive. It will be said, perhaps, that they look better: but how long will this be the case? Have not the stone walls at the New Palace, Pimlico, been three or four times cleaned since they were commenced? The truth is, that, in London, buildings covered with cement, not only look just as well as those covered with stone, when new, and the work is properly done; but, in a few years, both stone-cased buildings and stucco-cased buildings will be so discoloured by smoke, as merely to be distinguished as not being brick.

The National Picture Gallery at Charing Cross.—The following excellent observations occur in a note to *Beaumont's Hints on preventing Damage by Fire.* We give them, partly because they are strictly in accordance with sentiments which we have always held and expressed, and partly for the sake of offering an additional remark: —

"We may yet hope ultimately to see the National Picture Gallery of Great Britain removed from the heart of the most smoky city in the universe. Sea-coal smoke, the enemy of every thing, is particularly destructive to pictures. Independent of its corrosive action on colour and canvass, its sooty coating defaces the finer tints of a picture in a single season, and in a few years entirely conceals them. If any one doubts this, let him look on the pictures in Guildhall and other halls in the city: they are masses of soot and dirt. Let him notice the paintings in the Council Chamber of the Royal Academy, they are *chefs-d'œuvre* of the artists of our own time; but they are so overlaid with smoke and dirt as to be turned from with disgust. Let him call to mind the vividness of West's Lazarus, when it was first exhibited a few years since, or the freshness of Hogarth's pictures, when first hung up at the National Gallery in Pall Mall, and then regard their present obscured condition. It is painfully demonstrated to every artist's eye, that paintings hung up in London in a few years become lost as objects of admiration. The general effect of a celebrated painting may be discovered through the coating that defaces it, as a swathed mummy may indicate the form of the body within; but the life-touches of the gifted artist, the effects which gave delight and instruction, are buried. This continual picture-smoking can only be got rid of by frequent picture-cleaning; but it is well known that every scouring, re-canvassing, and touching up of a fine picture, is fraught with its destruction. Paint, like every thing else, wears away under solvents and attrition, and although it may be said that, with a delicate and skilful hand, the abrasion in cleaning is of the most superficial kind, yet the beauty of a fine picture often depends on touches equally superficial. How many of the finest specimens of Venetian colouring have disappeared under the hands of the cleaners. What we now see are, at best, but clever imitations of what the pictures were; generally, it may be said, if pictures are smoked and not cleaned, they become invisible, and if they be cleaned (repeatedly) they are destroyed. Either way they are lost; the only way to save them is not to smoke them.

"The National Picture Gallery, therefore, ought not to be in the midst of the smoke of London, nor even within its reach. The northern extremity of the Regent's Park is the nearest approximation to London smoke that can safely be trusted. The higher part of Greenwich Park, near Blackheath, would be still more free from smoke; but the centre of Richmond Park would insure the purest atmosphere.

"The opponents to a suburban site for the National Gallery insist that, unless the pictures be near the centre of the metropolis, few will take the trouble to go to them. The same thing was predicted of the Zoological Gardens; and yet, in fact, ten times as many persons travel thither as ever assembled at the Tower or Exeter Change. It may safely be inferred, that, if the National Picture Gallery were near these gardens, ten times as many would visit the pictures there as have seen them in Pall Mall. A walk or short ride out of the murky atmosphere of London gives a bodily refreshment to the visiter, which adds to the zest of his mental treat, while the purer air of the country shows the subjects to advantage. The public are not insensible to this double pleasure. It is again said, that artists will not spare the time to go far from their painting-rooms: the answer is, major objects must not be sacrificed to minor ones. The first consideration is, the lasting preservation of these gems of art; the second, that their merit may be seen in perfection. Unless these points be well secured, the artists themselves cannot enjoy the benefit of the pictures for any length of time. The permanent interests of artists and the arts must be consulted: the desire of the artists of the day is a minor consideration; but even this, if rightly directed, must lead them to prefer a pure atmosphere to a foul one. In the intensity of their pursuit, they are too apt to forget the care of their health: it is for their good that they should be forced to take exercise and fresh air; their walks across the park would probably not take up more time than, for want of exercise, they would lose by the interruptions of health; or, if they would for a while pass the greater part of their time at the gallery, as is done when studying abroad, they can board and lodge as cheap in the villages as in the heart of the metropolis, and acquire a stock of health as well as knowledge. The preservation of the pictures; the seeing them in perfection; the essential interests of the arts and artists, all indicate the necessity of placing the national collection of pictures out of the smoke of London."

We have always objected to Charing Cross as a situation for a gallery of pictures, for another reason, viz., that, in winter and in spring, when most people are in London, there is a stratum of foggy air which extends over the low grounds on both sides of the Thames, even as far as the New Road. As a proof of this, let any person go into the Panorama of London, at the Colosseum, and mount to the height requisite to see the picture; he will then find an atmosphere supplied with light from the roof much clearer than it is in the open air of the street. The light in this case is supplied from a superior stratum comparatively free from fog. By placing the National Gallery in the central circle of the Regent's Park, and lighting it from the roof, the light would be supplied from a still higher stratum, because that circle is on higher ground. In 1829, writing from Munich for the *Magazine of Natural History*, we suggested the idea of a circular building to serve as a national gallery, and to form a ring round the entire circumference of the inner circle, now occupied as a nursery; the interior to be covered with glass, as a public tropical garden. We supposed only a small segment of the ring of gallery to be built at first, but that it should be increased with the increase of the collection of pictures. The glass we proposed to be raised on cast-iron columns, to the height of 100 ft. or 150 ft. from the soil, and the interior to be heated by fires, which should communicate their heat to the walks, and to lakes of water, and rocks; the smoke to be carried off by the hollow cast-iron columns which supported the roof. This roof we proposed to consist of an indefinite number of small cast-iron glazed sash frames (say 3 ft. square), hung on pivots, overlapping each other like panes of glass, to be raised simultaneously to the perpendicular, to admit showers of rain, or to any inferior angle at pleasure, by machinery moved by steam.

A Stove for heating by Gas is now exhibiting by the inventor, Mr. Ricketts, in Agar Street, Strand, London. The construction, as may easily be imagined, is perfectly simple; indeed, it consists in merely placing a casing of metal round a jet or jets of gas, so as to receive the heat given out by the jets. We have more than once heated a small green-house by placing an earthen bell or cone, 3 ft. high, and 18 in. in diameter at the bottom, over a basin of refuse grease, in which was a floating wick; but the use of gas is a much more elegant mode, and more free from soot and smell. The expense of heating a room 18 ft. square, and 9 ft. high, by Mr. Ricketts's plan, and according to the present price of gas in London, is from a penny to three farthings per hour, according to the external atmosphere. Wherever gas can be laid on, Mr. Ricketts's stove, or any mode of obtaining heat from gas, may be most conveniently and economically adopted in rooms and public offices, where there is no fireplace, where it is desirable to avoid dust, or where the occupant is his own servant. A gentleman living in chambers, or a single lady in a lodging, might, with one of Mr. Ricketts's stoves, not only heat the room without either labour or dust, but might boil whatever water might be wanted, or cook their own food.

Mr. Ricketts's Gas Cooking Apparatus, with a roaster, boiler, steamer, oven, and stewing-plate, is a piece of furniture of very great merit. It is a great simplification of Mr. Hicks's mode, which we were the very first to describe in our *Encyclopædia of Cottage Architecture;* and it has the merit of being cheaper. It will hardly be believed how much more economical a gas cooking apparatus is than one in which coal, or any other common fuel, is used. It is difficult to overcome the prejudices of mankind in favour of established modes; and there is, therefore, little chance of gas cooking becoming general during the present generation. It is clear, however, from what Mr. Hicks has invented, and Mr. Ricketts and others applied, that the whole of the heating, cooking, and lighting of London might be conducted by gas at an immense saving to the public; and totally without our present smoky atmosphere. Were this the case, coal fires could only be necessary in large manufactories, where the smoke would be effectually consumed. Were gas only about one half cheaper than it is (and the new French mode of obtaining it from water promises to effect this), it would, in spite of our prejudices, be very frequently used both for heating and cooking.

Derbyshire. — Plans and estimates for building a bridge at Willington, either of stone or cast iron, are wanted. Application for particulars may be made to Messrs. Monseley and Barber, solicitors, Derby. (*Morn. Chron.* Jan. 7.)

Norfolk. Norwich Castle. — We have had a grand stir here as to the restoration of the ancient castle of Norwich : it needed some repairs, and they were commenced without regard to maintaining the original mode of building. This brought on discussion, which ended in Mr. Blore being called in. His report is not yet published, and the works are suspended for the winter. I believe he will strike out a new course.

A new Catholic chapel is nearly completed at Cossey, from the designs of Mr. J. C. Buckler. Cossey, you will remember, contains Lord Stafford's splendid specimen of the domestic Gothic or Tudor architecture (not yet completed), noticed in your *Encyc. of Arch.*

Righting a Leaning Tower. — About two years since I had a mill tower built on marsh land, which leaned so much as to be seven courses of bricks out of the level. My plan of righting it was this : — On the highest side (level with the soil) I cut holes a foot square, and a foot distant from each other, so as to bear the resemblance of pigeon-holes. In each of these holes, or lockers, as they are called here, was inserted a screw between two planks, which extended the whole thickness of the wall transversely; the screws having pedestals of cast iron, so as to produce an even bearing on the planks. The screws were then set "taut" [tight], so as to press the planks downwards and upwards. The intervals between the lockers were next cut out, and the weight rested on the screws; they were then turned [slackened], so as to lower the highest side of the tower a course of brickwork at a time. As soon as the tower was, by this means, brought perpendicular, the intervals were blocked up, so as to receive the weight from off the screws. The screws were then taken away, the lockers filled up; and the job was complete. It is necessary to put a hoop round the tower before commencing, to prevent cracks, but the hoop need not be more than 2 in. by ¼ in. My apparatus is very compact, and packs in a moderate-sized box. The cost was only 10*l.* — *W. Thorold. Hethersett, near Norwich, Jan.* 15. 1835.

Northumberland. — *A General Cemetery* is proposed to be formed at Gateshead, near Newcastle, of which Mr. Dobson of that city is to be architect. (*Newcastle Courant*, Oct. 11. 1834.)

Somersetshire. — *Bath, Nov.* 5. 1834. You will see, by a well-written letter in the newspaper sent herewith, that the late *improvements* at the abbey are far from giving general satisfaction. The corporation have granted 6000*l.* towards the alteration of the interior of the Abbey Church. A difference of opinion prevails between the body corporate and the architect. The former wish to enclose the transepts within the screen, and to exclude them; while the latter wishes to leave them in their present state. In this case, the architect is right, perhaps accidentally. The abbey itself has been treated like a doll; one child cutting off an ear, another a nose, and another striking out the eyes, until the original figure is scarcely distinguishable. The square-faced towers which rose flush upon the eastern front have been removed, and, in their place, octagonal towers are now building. The vestry is to be removed to the north transept; and the old and curious building used as a vestry, which time had mellowed into agreement with the older structure, and which is connected with many pleasing associations, is to be destroyed. Would that the hand could be stayed which executes the uncalled-for mutilations now proceeding of a noble specimen of ancient art! Prior Holloway, the last of the priors of Bath, was noted for his pursuit of alchymy. Being disturbed in his studies, he is recorded, in an old poem, to have hidden his crucible in the wall of the abbey, and to have been unable, after searching for it, again to discover it. The workmen employed upon the south side of the abbey are said to have found in the wall a crucible, which may possibly have been that of the unlucky alchymist. Some improvements have been made in the city, which are very much approved of. One of the most conspicuous of these is the removal of the bookseller's shop at the corner of Orange Grove, by which, instead of the inconvenient narrow passage which used to lead from the Grove to the Parades, a handsome carriage road is made. The viaduct across the valley and brook between Brass Knocker and Limpley Stoke hills is completed. It was begun on the 3d of June, and was finished on the 25th of October; little more than four months. The bridge consists of 11 arches, each 21 feet span, and, including the walls, 39 feet high from the meadow: the road on the top is 33 feet wide; and the length of the bridge 340 feet. A committee have inspected the work, and have pronounced that great praise is due to Mr. David Aust, the architect.

The Alterations in Rivers Street and Bennet Street are nearly completed. The paving opposite the rooms has been levelled, and the slope, which rendered considerable care and caution necessary in driving carriages down it, is almost entirely avoided. In Brunswick Place, the road, which a few years since was raised, and constituted one of the improvements of the place, is this year again improved by being restored to its former condition. It would be economical if the commissioners were more considerate of the pockets of the housekeepers, before they practically effect their notions of improvement.

The new Road from Bath to Warminster is expected to be opened about May next. The latter town is now lighted with gas; and has, indeed, been so much improved lately, that a native, returning to it, after an absence of six or seven years, if he were to enter the town at night, would scarcely recognise it. Instead of seeing the decayed hall that cumbered the middle of the town, ruined houses, and gloomy cottages, he would behold an elegant town hall, a new street, a new church, and cheerful houses, exhibiting comfort and happiness; and all this not seen dimly as heretofore, but by the inspiring influence of a strong and brilliant gas light.

The Road from Bathwick to Stoke is rapidly approaching completion. Considerable opposition was raised to the bill by which this undertaking is authorised, and the active endeavours of Mr. Roebuck to carry the bill through the House of Commons exposed him, at the time, to much censure. It is now admitted that this road will form one of the chief improvements of the place. It passes along the old line of road until it nearly reaches Bathampton, when it takes the circuit of the hills, passing under Claverton, going on above the aqueduct, crossing the valley by a magnificent stone viaduct, and rising by a gentle ascent the hill opposite, until it reaches Stoke. It passes in this course along the beautiful and prettily wooded valley of the Avon, and presents much varied and magnificent scenery. The best mode of seeing the views it affords is, perhaps, to follow the road from Stoke to Bath. The view from above Stoke, and through the woods with which the hill about it is enriched, is truly grand. At the bottom of the hill, the aqueduct and viaduct vie with each other as works of art, and are noble specimens of masonry. Passing on towards Bath, the road opens the beautiful scenery about Malley, and presents in pretty combination the villages of Bathford, Colerne, and Batheaston. It then goes forward in an almost level line to Bath.

The New Assize Courts at Devizes.— The tenders of Messrs. Young and Benoni White of Devizes have been accepted, for the erection of the new Assize Courts. The work is to be completed by the 1st of June next, and active preparations are making for proceeding with it immediately. I understand a beautiful design for this building was sent in by your correspondent, Mr. Lamb.

The Streets of Frome are now lighted with gas, and the effect is brilliant.

Surrey. — *A New Church* has lately been erected at Clapham, chiefly at the expense of two or three individuals, from the design of Lewis Vulliamy, Esq. in the Gothic style, with tracery window heads, crocketed pinnacles, a tower, and small spire about 70 or 80 feet high, and catacombs under the whole body of the church. The walls are of brick, covered with Roman cement to imitate stone. The west front is rather rich. It will contain 450 persons in free seats, and 800 in pews, including galleries: total, 1250. Cost 6500*l.*

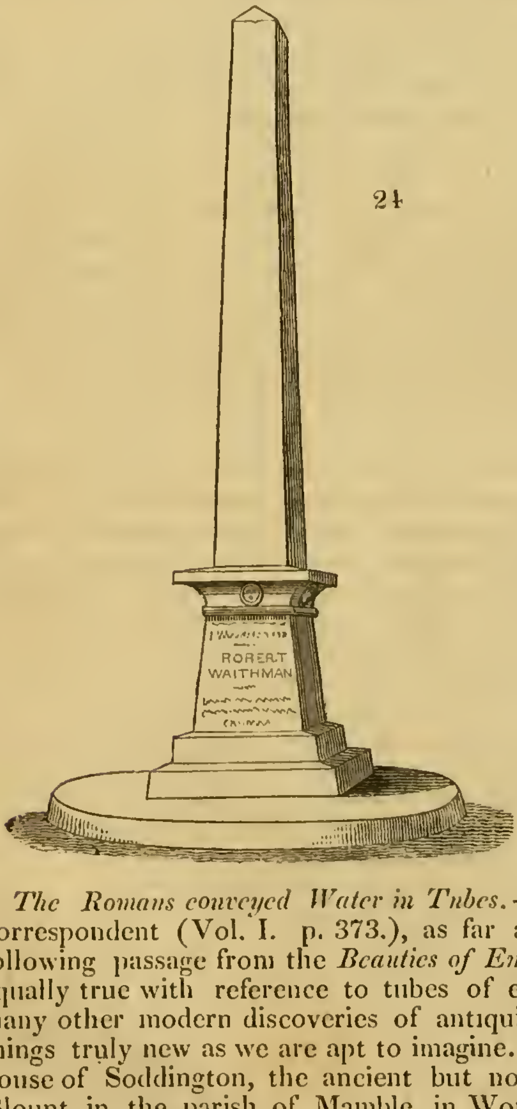
Art. IV. *Retrospective Criticism.*

Erratum. — In p. 46. line 15 from the top, omit "not." — *J. R.*

Mr. Bakewell's Bricks. (Vol. I. p. 312.) — Mr. Bakewell informs us that the bricks made by his machine are not indented at the ends, as we had supposed and stated, though he could easily alter the mould in such a manner as to indent them, if that were considered desirable. He also states that he can make them quite smooth on the upper and under surface, if required; and can mould them so as to suit any kind of coping, cornice, architrave, facings of windows or other openings; for Gothic labels, or for round or square pillars or columns. Wm. Rhodes, Esq., of Hackney Road, London, has adopted Mr. Bakewell's machines in his brick manufactory; and J. C. Dyer, Esq., who is building an elegant mansion near Manchester, contemplates using Mr. Bakewell's bricks in his garden walls, as, from their smoothness and small joints, they are less likely to harbour insects. Mr. Bakewell differs entirely from us, as to the merits of brickwork covered with stucco. He says, "the artificial, temporary, and expensive practice of daubing over fronts with mortar would not so generally prevail," if gentlemen who construct houses for the purpose of residing in, themselves, were not either parsimonious or economical. "Although it must be acknowledged," he continues, "that houses of this description look handsome for a while, yet, comparatively, in a short time they become mean and shabby in the extreme, and require to be almost continually polished or repaired; and, even when most perfect, we know it to be a deception, and intended to hide deformity and worthlessness; and the defects above mentioned can be only partially amended, by incurring the enormous expense of periodical painting at short intervals: but, to perform that operation on the beautiful and durable bricks that are now manufactured, would be as preposterous and absurd as that artist who should disgrace himself by covering over, even with the most delicate pigments, those beautiful and inimitable specimens of the fine arts, the Laocoon, the Apollo Belvedere, or the Venus de Medicis." (*Observations*, &c., p. 18.)

Churches and Chapels erecting in the Country. — Your correspondents sending information of churches and chapels erecting in the country do not forward sufficient particulars of them to be of much use, except only as local news. Perhaps a hint from you might induce some of them to send the number of sittings the proposed church or chapel is to contain; distinguishing free seats from pews, the cost, the style of architecture, whether with a gallery, tower, turrets, vaults, catacombs, portico, &c. &c. The materials used, &c., might also be mentioned. From such information architects would be able to compare the relative value and cost in various parts of the country; and this would greatly assist young beginners in estimating their designs: as many may lose employment, let their designs be ever so good, from estimating the cost too high. — *W. J. S. Waterloo Place, Jan.* 2. 1835.

The Earl of Plymouth's Monument on Bromsgrove Lickey (Vol. I. p. 379.) — In the description your correspondent R. gives of this design, he observes, "It differs from other monuments of this description, in having the faces of the pedestal battering; that is, the die of the pedestal is narrower at the top than at the bottom where it rests on the plinth, which harmonises with the pyramidal form of the upper part." When R. made this observation, he must surely have overlooked the lofty obelisk, formed of a single piece of Haytor granite, erected at the end of Farringdon Street, to the memory of the late Alderman Waithman; of which (I believe really the first example of its kind) Mr. Elmes, the architect who designed and superintended its execution, has made not only the pedestal but the steps (as R. calls it) "battering;" or, in other words, inclined from a perpendicular. This, I know as a subscriber, was objected to by some of the committee, and Mr. Elmes was asked for a precedent in ancient art: ideas were also submitted to him of Grecian and Roman pedestals; but the architect was firm, saying, an Egyptian obelisk ought to have an Egyptian pedestal, which he succeeded in executing. The accompanying sketch (*fig.* 24.) will testify that this statement is correct.



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The foundation was a solid bed of concrete, formed from the chippings of the obelisk and ground lias lime. Then was planted a cube of granite 7 ft. square and 4 feet thick, which reached as high as the circular pavement composed of eight pieces of granite. Each step is of one solid piece; the pedestal is of another single piece; the cap of another; and the shaft of the obelisk of another single piece 20 ft. high.

Alderman Harmer laid the first stone (the lower step) on a Tuesday morning, and the obelisk was all up and finished by 8 o'clock on the Wednesday morning.

If you wish a description and drawing of the machinery and means used, I can procure them for you.—*A Subscriber to the Waithman Obelisk. London, Jan.* 3. 1835.

We should be glad to see the description and drawing, kindly offered by our correspondent; and, if we do not use them, we will return them immediately. — *Cond.*

The Romans conveyed Water in Tubes. — This has been proved by your correspondent (Vol. I. p. 373.), as far as respects leaden pipes; and the following passage from the *Beauties of England and Wales* proves that it is equally true with reference to tubes of earthenware. It also shows, like many other modern discoveries of antiquities, that there are not so many things truly new as we are apt to imagine. In levelling the ground near the house of Soddington, the ancient but now desolated seat of the family of Blount, in the parish of Mamble in Worcestershire, in 1807, the workmen "dug up a vast number of curious tubes, which seemed to have formed an ancient aqueduct, the existence of which was previously unknown to any of the inhabitants, even by tradition. These tubes were formed of the finest clay, and were exceedingly well baked; being of a grey colour on the outside, and, when broken, of a dark colour in the interior. They appeared to be exactly of the same kind of composition as the common Roman urns. Each tube was about 2 ft. long, and about 4 in. in the total diameter, though the aperture for conveying the water was not more than 1¾ in. At one end were hollow tenons, and mortises at the other, all so exactly filled as to be air-tight without the intervention of mortar." [This description would answer perfectly well for the earthenware tubes manufactured at Adams's Pottery near Shepherd's Bush.] "They were laid in the direction of a spring, which flows at the distance of a mile and a half from Soddington, and they were traced a considerable part of the way to it." There were also found here a "focus formed of thin bricks," a brick pavement, a complete brick-kiln, consisting, by computation, of 10,000 bricks, &c. Over this brick-kiln and immense number of bricks, a bed of earth was formed, in which an oak tree, rotten with age, actually grew. Mr. Milner, in the *Gent. Mag.* (vol. lxxvii.), conjectures that this brick-kiln was built for the Romans, or for the use of their civilised British subjects, about 418, or just before the former left the island. But I am deviating from my subject, which was to confirm the statement of T. F. L. — *An Architectural Antiquary. York, Dec.* 1834.

ART. V. *Queries and Answers.*

A LECTURE ROOM, about 18 ft. wide and 13 ft. high, is wanted to be divided off, so as to allow of two classes meeting therein at one time without incommoding each other. The principal object required is the effectual deadening of noise: there must be a doorway between the two divisions, and it is essentially requisite that the partition should be so constructed as to be easily removed and replaced, in order to admit of the room being frequently used for lectures. It is necessary to state, that, from the situation of the room, there are no means of raising the partition bodily by pulleys, like a sliding shutter; nor can it be drawn into a recess in the wall, nor sunk beneath the floor.

I beg earnestly to solicit the attention of your readers to the above; and if any gentleman will point out how the object may be attained at a small expense, he will much oblige, not only myself, but a great many members of a respectable public society. — *Pit. London, Jan.* 8. 1835.

The Coldness of the Feet of Persons who are employed in sedentary occupations, or in any occupation which does not require exercise, whether in offices, shops, or private rooms, is well known. What are the best practical means of avoiding this evil in a house already built, or can it be avoided at all? I am aware that, where a house is to be built, the plan described at length, in your *Encyc. of Arch.*, of heating the floor with flues under it, is decidedly the best; and I am persuaded that the time will arrive when it will be generally adopted, not only in cottages in the country, but in the ground floors or living-floors of all dwelling-houses whatever, and also in all shops and offices: but what is to be done in the meantime? Can steam or hot water be so applied as to remove this evil? or can German or Swedish (that is, iron) stoves be used without contaminating the atmosphere of the room? It would be rendering an essential service to the public, if some of your readers would take up this subject, and discuss it in all its various bearings, and especially in its practical application. — *James Nevin. Blackwall Street, Poplar, Dec.* 1834.

Morgan's Patent Self-feeding Apparatus for heating and ventilating. — Have you seen this apparatus? and, if you have, will you have the goodness to state how it acts, and to give me your opinion of it? — *John Green. Manchester, Dec.* 1834.

We saw this apparatus last summer, in the large circular glass house in the Surrey Zoological Gardens. It consists of two parts; a case 3 ft. on the side, and 6 ft. high, containing the fireplace and boiler; and over them the fuel. The pipes for circulating the water are attached to the boiler by union screws, which renders the apparatus portable. The coals are placed on the upper part of the apparatus, on a shelf hinged on one side, having the other side supported by a chain, one end of which is attached to a roller. This roller is connected with clockwork machinery, which lowers it at a certain rate per hour, and consequently allows the coal to drop gradually into the fire. A similar plan for feeding coals to boiler furnaces was put in execution some years ago, by an ironmonger in Long Acre, but he had the addition of a spiky roller to force out the coals. The same description of spiky roller has also been placed at the bottom of a hopper, for moving the coals and dropping them regularly into the fire, as seeds are dropped into the ground by a drilling machine.

With respect to our opinion of Mr. Morgan's plan, we think it exceedingly ingenious, and that is the best that we can say of it. It has cost the inventor a great deal of money; and, besides, has tempted him to leave an established business in the country to settle in London, for the sake of displaying it. Had Mr. Morgan been a regular reader of that excellent periodical the *Mechanics' Magazine*, he would have been less sanguine in his expectations.—*Cond.*

Freezing of Water in Pipes used for heating. — It frequently happens that, through carelessness, inadvertency, or from a severe frost taking place unexpectedly, the water in pipes used for heating freezes, and bursts the pipes. Sometimes it freezes, and, from the orifices of the pipes being covered, or from there being no boiler, as in the case of Perkins's and Weeks's apparatus, the circumstance of the water being frozen is unknown to the person who is employed to light the fire. Where there is a boiler, as soon as the ice is thawed, the pipes empty themselves, and the boiler, becoming empty also, is liable to be cracked; where there is no boiler, a portion of the ice in the tubes next the fire is turned into high-pressure steam, and the pipes are sure to burst. A case has lately come under my inspection, in which some pipes (hermetically sealed) were burst in this way. No fires had been made in the furnace for 8 or 9 months, and one being made during the late severe frost, it had no sooner begun to heat the pipes, than the expansion tube, which happened fortunately to be near the furnace, burst, and filled the house, which happened to be a green-house, with steam. This may afford a hint to Mr. Perkins to have the expansion tube of his apparatus always as near to the furnace as possible. In the case I mention, had it been at a distance from it, the pipes would probably have burst in the place where they were most heated; viz. in the coil round the fire, and in that case the furnace and brickwork would have been blown up, and probably the man who was attending the fire killed. I consider it the duty of every one who has any new description of apparatus at work, to give an account of whatever accidents may result from the use of it, for the benefit both of the inventor and of the public; but this is not the whole of my object at present. I wish to ask you, or your readers, whether some fluid might not be employed for circulation in these tubes, which would not freeze at the same temperature as water, and which, at the same time, would not carbonise and become dangerous like oil? Would not the saline mixture employed by Dr. Ure for boiling sugar be suitable? If you are acquainted with that eminent chemist, I am sure he could suggest to you a liquid composition suitable for the purpose in view, that would be at once safe and not too expensive. — *J. W. Paddington Parish, Jan.* 5. 1835.

We have seen the burst pipe, &c., mentioned by our correspondent, and think it necessary to state thus much, as he declines having his name published. We shall send a copy of his communication to Dr. Ure, and beg the favour of his opinion. — *Cond.*

THE

ARCHITECTURAL MAGAZINE.

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ORIGINAL COMMUNICATIONS.

Art. I. *On Unity of System in Architecture.* By the Conductor.

The want of unity of system is in no instance more obvious than in the application of porticoes with columns, &c., to houses, or other structures, in which there are neither columns, pilasters, nor architraves indicated in the walls. This is as absurd in architecture, as it would be, in dress, in this country and at the present time, for a person habited in the coarsest woollen cloth to decorate himself in an embroidered silk waistcoat. Porticoes placed against common walls are to be met with in every street, and are not unfrequent in the case of churches or other public buildings. In the latter case, the error is glaringly absurd in proportion to the magnitude of the edifice.

Perhaps it will be asked whether there are to be no porticoes at all, in cases where no columns or pilasters are indicated in the main body of the edifice. Our answer is, there should be no Grecian or Roman porticoes. No porticoes with classical columns ! How then are porticoes or open shelters to be formed for the entrance doors of plain brick or stone houses, that indicate neither classical nor Gothic architecture? The answer we have to give is, by props or pillars, formed of what may be termed slices or sections, taken from the walling; and connected with it by corresponding projections, and by architraves or lintels similar to those which cover the doors or windows. Such porticoes with rectilinear props may have every useful quality of those which have columns, and belong to classic architecture; while, at the same time they appear to belong to, and to have arisen out of, the construction of the wall against which they are placed. In a brick-built front the props or pillars may be of brick ; and in a stone or stucco front of stone or stucco. They may even be of stone, real or imitative, when placed against brick fronts; on the same principle that facings, sills, and lintels, to the doors and windows, in brick fronts, are sometimes of stone, viz., that of enhancing the interest and beauty of the more important parts of a composition, by the employment of more costly materials and more skilful labour. But if porticoes may be made of stone, or of an imitation of stone, why may not the props be rounded like classical columns? They should not be made round in general, because there is nothing round in the system of the walls which support the roof of the house; but in extensive fronts, and under certain circumstances, there may be no objection to forming the props cylindrical; though, in that case, care must be taken, never, by details, proportions, or ornaments, to create an allusion to classical architecture, and never to let it be imagined by the spectator, that any of the Greek or Roman orders were intended to be imitated.

The porticoes in London which are constructed in violation of the principle of unity of system are innumerable; but there is scarcely one erected in conformity with this principle which does not belong to the classical style, and to a large edifice. The invention and construction of appropriate street porticoes for plain brick houses is, therefore, a subject which demands the immediate attention of the architect of reason, that is, of the architect who forms his composition according to the fitness of things, without being the slave of custom and precedent.

Where a veranda, covered balcony, or projection of any kind open and covered with a roof, is to be formed, the props or pillars should, in like manner, belong to the system on which the walls are built. The superior effect of this mode, in the case of a veranda round a plain square brick house, supported by brick props, as contrasted with one in front of a plain stuccoed house, composed of round classical columns, may be seen in Porchester Terrace and Craven Hill, Bayswater. An instance of unity of system in classical architecture being worked out into all the various details, both in the portico and in the elevation, will be found in the back front of the Law Institution, which looks into Bell Yard.

It appears to us that two of the most desirable improvements in the street architecture of London, and of our other large towns, are, the introduction of porticoes, strictly in accordance with the system or kind of design in which the walls against which they are placed are built; and the getting rid of that abominable prostitution of classical architecture, in which columns are applied as ornaments to shop fronts. Not that we would exclude classical columns either from porticoes or from the fronts of shops, but that we would never employ them in either case, when they did not harmonise with the general system of the elevation, or, in the case of shop fronts, when they were either merely laid against the wall as ornaments, or made to appear as if they supported all the upper part of the wall. In the one case they lose their dignity by no longer having the appearance of being employed as supports, and in the other case they lose their dignity by appearing to support too much.

But modern architects and builders can do nothing without precedent ; nothing without the five classical orders, or the five or six styles of Gothic architecture. Their minds are so imbued with these, that they can invent nothing that does not belong by precedent either to the one style or to the other. It is for the rising generation of architects to free themselves from such trammels; and to weigh the knowledge left us by our ancestors in the balance of reason.

Art. II. *On the Studies and Qualifications necessary for an Architect.* From the French of Quatremère de Quincy. By P.

This word, derived from the Greek, and composed of two words of that language, *archos* and *tektón*, signifies the chief of the workmen. It is literally the definition of one who superintends a building. Architecture has been defined as the art of building; but this art can only rank among those called the liberal arts, when it is practised according to principles taken from nature, and when it follows the rules which relate to those wants and gratifications of our eyes and of our minds, which require to be satisfied by the architect.

The etymology of this word sufficiently shows that, in Greece, the artist to whom it was given was, in fact, the supreme director of the labours and works which are combined in the formation of an edifice. Therefore, the superior nature of this office leads us to suppose that he who filled it possessed a rare combination of talents and general knowledge. The number of qualifications which Vitruvius exacts from an architect conveys to us the highest idea of the powers which the ancients recognised, both in the art and in its professors.

"In this art," says the Roman architect, whose theory we shall greatly abridge, "as in every thing else, we distinguish what is signified from what signifies. The thing signified is that of which we treat, and that which signifies is the description of it, set forth by reason, and supported by science. Thus, in architecture, we separate practice from theory. The first is executed by the hands, which give to the material, whatever it may be, its proper form. The second demonstrates; it explains works executed by the aid of judgment, and by the rules of proportion. Thence it results that architects without theory, assisted by practice only, and limiting themselves to the executive department, have never been able to acquire any name by their works. The same thing has likewise happened to those who, confining themselves to theoretic knowledge, have failed in their object by pursuing its shadow.

"The reason why it is necessary that the architect should be equally acquainted with practice and theory is, that his imaginative and executive powers should alike be cultivated; for genius without perseverance, or perseverance without genius, can never form a perfect artist.

"The architect ought, therefore, to be able to write and draw, to have studied geometry, and not to be ignorant of arithmetic; he should know history, be skilled in philosophy, and have some acquaintance with music, besides a smattering of medicine, jurisprudence, and astronomy."

Pythius, one of the most celebrated architects of antiquity, who distinguished himself by the construction of the temple of Minerva at Priene, exacted from architects (as he expresses himself in a treatise he composed) a still more profound knowledge of each particular science than would be exercised by the professors of the sciences themselves. Vitruvius is more judicious, for he only requires a moderate knowledge of the different branches of science. He says, "it is neither possible nor necessary that the architect should be as good a grammarian as Aristarchus, as great a musician as Aristoxenes, as excellent a painter as Apelles, as skilful a sculptor as Myron or Polycletus, or as learned a physician as Hippocrates. It is enough," adds he, "that he should not be ignorant of grammar, music, sculpture, and medicine; the mind of any one man not being capable of attaining perfection in such varied and eminent acquirements." To these particular or general studies, Vitruvius desires the architect to unite much perseverance and disinterestedness. "I know well," he continues, "that a great part of the world hold the opinion, that the chief end of wisdom is to render us capable of amassing great riches, and that there have been few men found, who have been fortunate enough to acquire wealth and reputation together, since, for the most part, their principal care is to seek for great employments. As for me, I have learned from my masters, that an architect ought to wait until he is solicited to undertake the conduct of a work; and that he cannot, without shame, make a request that would cause him to be regarded as an interested man. We know that we do not importune people to do them good, but to receive good from them. What would a person think, who was asked to permit his goods to be laid out to a great extent, except that he who required such a favour of him hoped to make some great profit to his detriment. This is the reason why people formerly, before employing an architect, made enquiries respecting his birth and education, and they trusted more to those who appeared diffident, than to those who affected great capability. The custom, likewise, of those times, was for architects to instruct only their own children or relations; or, at least, only those whom they judged capable of acquiring learning to the extent required from an architect, and for whose fidelity they could answer."

After this enumeration of the attainments which were considered necessary for the practice of architecture among the ancients, we ought not to wonder that Plato asserted "that a good architect was a rarity in Greece." In modern times, another reflection presents itself on the subject. If we compare the studies formerly exacted from the artist, with the present mode of teaching and learning architecture, we can hardly fail to arrive at the conclusion, that either the art has lost many of its difficulties, or that the greater part of those who profess it have shaken off many of the conditions which formerly were considered to constitute its perfection.

Nevertheless, if we except astronomy and music (arts which are less necessary now than formerly, for the construction of sundials and theatres), it is certain that the professors of the art of architecture cannot do without the other studies prescribed by Vitruvius; and that the wants of the moderns even render some additional ones also necessary. Historical and literary acquirements, therefore, are absolutely essential to modern architecture.

Vitruvius thought it necessary that an architect should know how to give a reason for every thing which connected his art with the facts and opinions of history; for example, for the origin of *Caryatides*, &c. How much more indispensable, then, must this erudition be now! for, from the very circumstance of the adoption of ancient art, the architect must employ an infinity of elemental and decorative parts in his architecture, of which he might make a use which would be inappropriate, and often ridiculous, if he were ignorant of their origin, and consequently of the purposes to which they ought to be applied. Besides, an architect is frequently obliged to explain his projects, by committing the substance of them to writing, or to illustrate his motives in a discourse before the learned. He must, therefore, know how to develope his ideas with method, clearness, facility, and consistency. Arithmetic and the mathematics are not less necessary to the architect in these days than in ancient times. He should not confine himself to the elements of the first, but pursue it to its utmost extent, both to assist him in the execution of his designs, and also to enable him to avoid the too common errors in valuations, into which superintendents in buildings are apt to fall, by false calculations.

The modern architect has more occasion for the help of geometry and mechanics, than the architect of antiquity. The kinds of structure used among most modern nations require more of the combinations which are dependent upon these two sciences. Generally speaking, from the nature of the materials, and the simplicity of stonework, the designs, arrangements, and union of parts of the ancients demanded less art than is now most frequently required by the moderns, for complicated curves in roofs, or for furnishing to the most diversified plans the means of forming solid coverings with limited materials. The study of geometry facilitates the means of sketching and measuring all forms and solid bodies, by teaching the different properties of all sorts of curves; that of mechanics shows how to balance the governing and supporting powers. Whoever has neglected these studies will never find the right medium between solidity of construction and economy. Mechanics may be of great use to the modern architect, by affording him machines, which will supply the place of a number of hands, in the execution of his projects. Perspective and optics are equally necessary to him; they assist him not only in giving ideas of the effect and points of sight of the intended erection, but in finding means to light up his interiors advantageously, and to bring out or throw back certain portions of the building, according to their situation, or to the distance from which they will be viewed. An architect ought also to study physics, at least in some general respects: he should know, not only practically but theoretically, the component parts of his materials, and the different qualities of those he may have occasion to employ, according to the country he is in. He should have studied the physical and meteorological causes of the influence of the sun, air, and climate of the country in which he intends to build, in order that he may be able to determine on the most salubrious situation, and the most favourable aspects. It is this knowledge that Vitruvius recommends under the name of medicine.

Under the title of drawing, we do not understand simple delineation, but that study of the human form, and of nature in general, which is the foundation of painting and sculpture; drawing, we repeat, ought to constitute an essential part of the practical studies of an architect. Some authors have asserted, that no one could be a good architect, without having been a good painter or a good sculptor. If we glance towards antiquity, we shall still find, notwithstanding the number of examples that time and numerous revolutions have stolen from the fine arts, a great many authorities in favour of this community of studies, and proofs of the harmony which once reigned between these arts, and between those who professed them.

It was especially in modern Italy, and in the most happy age of the art, that most examples were seen of a union of skill and renown in different branches of the delineatory art produced in a single individual. We should make far too extensive a list, if we included in it all the painters and sculptors whose celebrity has reached our days, and who combined in the highest degree, with their respective arts, the knowledge, taste, and practice of architecture. Such a list would comprise the ever famous names of Giotto, Orcagna, Mantegna, Michael Angelo, Raphael, Giulio Romano, Polydorus, Vasari, Tibaldi, Daniel de Volterra, John of Bologna, Domenichino, Cortona, Bernini, Algardi, &c. To this catalogue we might contrast one, of men more particularly celebrated for their architectural works, but whose talents extended themselves to other arts. We might quote in this enumeration, Bruneleschi, Alberti, Ammanati, Sansorino, San Gallo, Bramante, Vignola, &c. It is thus evident, that in Italy there scarcely exists any fine monument of architecture, which is not, thanks to those who were its authors, the result of the combined knowledge and practice of different arts. The reason of this union of talents, formerly so common, but now so rarely met with in one man, is, that, formerly, the common point of instruction in these different arts was the study of nature, manifesting to each, according to its style, and under its direct or indirect affinities, the physical or moral qualities of this great original. Every one read and appropriated to himself the laws and effects of unity and variety, and understood the harmony of form, outline, and proportion. Instructed by, and imbued with, these grand principles, every artist, by the practice of drawing, could apply them to the different arts, as to different dialects of the same language, and knew how to pass from one form to another without changing any thing in the groundwork of the skill which enabled him to design each. Thus it was often seen, that an artist, compelled by chance to the exercise of an art of which till then he had no experience, suddenly developed aptitude in it, which would now appear to be the result of the devotion of an entire life. The history of architecture furnishes a multitude of examples of this kind. Vasari, in his *Life of Baccio d'Agnolo*, remarks, that this art, more peculiarly than any other, has been exercised by a great many men who had not made it a special study, and who were even ignorant of its technical terms. To which this writer, who was himself both a painter and architect, adds, " that no one could excel in architecture without sound judgment, a knowledge of drawing, or the habitual exercise of painting and sculpture. " Se non da coloro che hanno ottimo giudizio e buon disegno, o che in pitture o sculture abbiano grandemente operato." The cause of the facility," continues Vasari, " with which painters and sculptors learn architecture, is, that both from the affinity of statues with edifices, and the necessity of employing architectural compositions in pictures, they are forced to make themselves acquainted with this art, and to study its relative proportions."

Vasari, as may be observed, only accounts for this necessity by reasons of an inferior order. In fact, the real necessity for the painter and sculptor to be initiated in the elements of architecture, is very far from being the cause which makes them produce *chefs-d'œuvre* in this art. We must, in order to explain what has taken place in this respect, go back to analogies of a superior order, which apply to the principles of order and general harmony, as well as to the effects derived from them. The artist receives from these the most important lessons in those arts, which are the most direct and perceptible imitations of the beauties and perfections of nature. This is what we understand by the word architecture from this text of Vitruvius, "Non potest ædes ulla sine symmetria atque proportione rationem habere compositionis, nisi uti ad hominis bene figurati membrorum habuerit exactam rationem."

Whatever may be the authority of examples and theories on this point, as well as of the results which we may deduce from them, we cannot in these times make a law for uniting the teaching and practice of these different arts, nor expect a reproduction of the ancient custom. If the nature of ideas connects these sciences, if their moral elements reconcile them, the habits of modern schools, and the customs of practice, have raised between them almost insurmountable barriers. If then we can no longer, with Vitruvius and Vasari, exact from the architect the actual practice of painting and sculpture; at least, we ought to expect from him that he should combine some theoretic notions of the nature of imitation in the two arts, with a digest of the art of figure-drawing, whether it be to enable him to introduce in the composition of his designs suitable ornaments, or to direct the taste and style of other artists intrusted with the execution of the decorations he may have projected.

But what we cannot too strongly recommend to him who aspires to become an architect is, the study of antique monuments and edifices. We may say of these works, that they are, for the student of architecture, what the sight and study of the human form are for the painter and sculptor. [This we consider as architectural bigotry, but we insert it because we think it right that our readers should know the opinion of such a man as Quatremère de Quincy.] The models of architecture do not consist, as in other arts, of a formal mannerism, which seizes upon the exterior senses, by means of bodies on which physical organs have a direct action; but it is from works in which genius, intelligence, and reason, combined, have expressed from the first all the perfections of organised beings, that the genius, intelligence, and reason of the moderns should seek for lessons and examples.

So the instinct, feeling, and consent of ages, as well as all learned men in all civilised nations, have not ceased to attest and proclaim, that in no country upon earth, nor at any time, any other style of building than that called antique has been either the true imitator in its edifices of the beauty of the physical works of nature, or the faithful interpreter of the laws she follows in the production of creatures [! !].

Art. III. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. James Anderson.

[The essays, of which the following is the first, we have always considered to be among the very best that have ever appeared on the subject of architecture, in the English language. They were published, in the year 1800, in a periodical work, entitled, *Recreations in Agriculture, Natural History, Arts, &c.*, conducted by Dr. Anderson, but which, notwithstanding its possessing merit of the very first class, never obtained extensive circulation. Dr. Anderson was a man of almost universal genius, an elegant and scientific writer, and a man of taste. We make no apology for republishing these essays; because we believe that even their existence is known to very few architects; and because even those who may have heard of them, and know in what work to find them, would be obliged to purchase six octavo volumes, for six essays, which, printed together, would not fill one of our Numbers.]

Grecian Architecture. — In the earliest periods of society, it is probable that the first hovels erected by man in every country, for protecting himself from the inclemencies of the weather, were formed of boughs of trees interlaced, and covered with leaves, or grass, or reeds, by way of thatch. As the inhabitants of the earth advanced in civilisation, and invented tools adapted for cutting down large trees, for shaping wood into various forms, and joining different pieces together, structures of greater durability and elegance began to be erected of timber. The circumstances which gave rise to the idea of what we have since called the *orders* of Grecian architecture, have been so often detailed, as not to require to be here dwelt upon. It will be enough for us, at present, barely to remark, that the stems of trees cut over at one uniform length, and placed in a perpendicular position at a regular distance from each other in a straight line, as posts to support a superincumbent roof, were evidently the prototype of *columns:* that beams laid along their tops, so as to connect them together, and keep them in their true position, formed the basis of what was afterwards called the *architrave:* that the end of cross-beams serving to connect the two sides of the structure together, and resting upon the architrave, afforded the first hint for the *triglyph* in the most distinguished of these orders: that the thatch cut in *talus,* projecting over the side walls, suggested the notion of the *cornice;* and that the end view of the triangular roof, with boards fastened by means of small girders, connected with the sloping wood of the roof, for the purpose of securing the thatch from being carried away by the wind (many very perfect models of which may be seen at this day in the country cottages of England), was the original of that kind of ornament which hath since been called a *pediment.* All these things are such obvious truths, as to require merely to be stated, in order to be unequivocally assented to. As to the manner in which the lesser ornaments which constitute the characteristics of the five orders were introduced, I do not mean to take up time in detailing them, because I do not think them of sufficient importance to require a discussion in this place: besides, these have been so often repeated in elementary books of architecture, that no one who wishes to investigate such particulars can be at a loss to find them; so that I willingly here decline to enter upon this commonplace investigation.

For many ages after the Greeks had discovered the beauty of posts symmetrically arranged, supporting a roof on the outside of a wall or other building, and had felt the pleasure which an area thus protected from rain, and shaded from the sun, afforded in a warm climate, such *porticoes*, as these covered walls were then called, must have been accounted among the highest luxuries that the natives could enjoy; for there men could walk at all times in the open air, though screened alike from the inconvenience of wet and heat. Among a people, who were naturally inquisitive and loquacious, as the Greeks were; who had no means of obtaining instruction or information of any kind, but by oral communication with each other; whose laborious operations were all performed by slaves, and where they must, of course, have had much idle time upon their hands, it is no wonder if such places were held in the highest degree of estimation, and of course it must have happened that the ingenuity of their best artists was employed in arranging their columns with the utmost symmetry, in adjusting the proportions of the several parts, and in polishing and decorating all such structures in the most elegant way that their imagination could devise. That the Greeks, therefore, should become so fond of this kind of architectural decoration, as to deem it an essential feature of grandeur and elegance, and an indispensable adjunct to every public building, is what was naturally to be expected; and there can be no doubt but many thousands of structures, the memory of which has long since been totally obliterated, were thus ornamented, long before an idea was entertained of erecting any of those durable structures, the vestiges of which have been preserved even to our days.

As Greece advanced in civilisation and in wealth, their artists became acquainted with the means of preserving the remembrance of the heroes whom they respected, and the deities whom they worshipped, by cutting their figures in marble. To display these statues to the best advantage, it was necessary that they should be placed on pedestals, to elevate them to a proper height above the level of the ground. It was natural for the artists to wish that these pedestals should be formed of materials equally durable with the statues themselves: nor would it be a difficult matter for the statuary so to fashion those stones as to give them the stability required, and the form that seemed best to accord with the purpose intended. There is great probability, that it was in this way they first began to form an idea of what we now call *masonry.* How many ages it might be, after they had first discovered the beauty and conveniency of colonnades, before the first hint of the art of masonry was suggested, it is impossible for us now to say; but we may naturally conjecture that a very long time must have elapsed, after the first discovery, before they could form the bold idea of erecting a large building, constructed entirely of that *everlasting* material, as they would naturally suppose marble would be. But when the mind of man has once conceived a great idea, it can scarcely be relinquished: it broods over that idea continually; and one difficulty being at length surmounted, affords encouragement to go on, in hopes that others may in like manner be overcome. In this way they would come by degrees to see that it was possible to rear the *walls* of a public structure of stone to the height required. For we well know that these walls in general consisted of very plain work, having few apertures in them that might tend to embarrass the operator; and even this step, however easy it may seem to us, who have been accustomed to see walls reared of stone every day since our earliest infancy, must have appeared to be a stupendous exertion of human power to those who beheld it for the first time; as will appear obvious to any one who shall look endways at a thin wall raised to a great height before it be covered in with a roof, if the scaffolding has been removed. So very insecure, indeed, must such a wall have appeared to be, that I am satisfied it could only be by degrees that they would venture, from the experience they had had of the strength of low walls, to add by little and little to their height, and at different times, as occasion called for it, that they came at last to be satisfied of the practicability of rearing even such plain walls to the height to which they were carried in those temples.

But the greatest difficulty yet remained. A public building without a colonnade annexed to it, could not be tolerated in those days; and how to erect a colonnade of marble, in the state of their then knowledge of masonry, that should, in any respect, resemble those which they had been so long accustomed to idolise, must have been a very difficult problem to solve. They had been so long accustomed to admire the symmetry of their columns, and the conveniency that the colonnade afforded, that they would never once dream of any thing as a substitute for it. One device only for getting over this difficulty remained: it was, to preserve the form as much as possible, but to alter the proportions of their columns, so as to bring it within the compass of their power to execute it with the materials they had chosen. For this purpose, instead of the slender wooden posts that had been before in use, they found it necessary greatly to augment the diameter of the column, so as to give it the solidity of a pillar capable of supporting the weight that was necessarily to be laid upon it. And as it was impossible to get a solid stone that could run along the whole length of the colonnade, as the *wooden* architrave used to do, it was necessary to place these columns so near to each other as to admit of one block of stone to reach from one column to the other, so as to have one end to rest upon each column, and thus to bind them together, as the architrave used to do. Thus was the intercolumniation diminished to that inconvenient proximity to which, ever since that day, the followers of Grecian architecture have thought themselves obliged to adhere. A circumstance this which must have struck those who saw it for the first time as a prodigious defect; although, on account of the supposed impossibility of avoiding it, and the idea of grandeur that would be annexed to this mode of building, on account of the difficulty of constructing it, and the amazing expense it would cost, compared to that of former structures of the same sort, they would strive to reconcile themselves to it: and soon they would be able to do this, if the ideas of people in Greece were in any respect like those which prevail in the modern nations of Europe, among whom a new fashion, if it be only sufficiently expensive, will never fail to be deemed the quintessence of elegance, however absurd and inconvenient.

Be this as it may, there can be little doubt that it was from the circumstances here explained, that the proportions of the Grecian columns and their intercolumniations, which have been adhered to ever since, were first established; proportions which, though it may by some be deemed worse than sacrilege to speak of them as I now do, will for ever prevent this ornament from being conjoined, without incongruity, with the convenience that private buildings require; or, perhaps, with that of public buildings, without producing unnecessary clumsiness and comparative inconvenience and inelegance, if persons whose judgments are unprejudiced are to decide. But on this subject I shall not now enlarge.

After the people of Greece had once reconciled themselves to the idea of the superior grandeur of marble columns when compared with those of wood, colonnades of the latter kind would naturally fall into disuse, except in those meaner structures which were erected solely for the purposes of conveniency; in regard to which, cheapness being chiefly considered, every kind of unnecessary ornament would be entirely avoided. The superiority in point of elegance of marble columns above those of wood, would then come to be indisputably and universally recognised; so that no public building of considerable note could be erected without the necessary appendage of a marble colonnade, in front at least, if not on each side the building. And we can accordingly trace this form in almost every temple in ancient Greece, the memory of which has reached the present day.

But although the Greeks, in the most flourishing period of these petty states, were so far acquainted with the art of masonry, as to be able to rear temples and other public buildings of stone; yet it does not appear that ever it was customary among that people to erect private buildings of these costly materials. We have every reason to believe that the private habitations of individuals were, in general, formed of wood or other cheap materials; and that convenience, rather than elegance, was principally attended to among them. We know, also, that in Grecian temples it was *external* grandeur and elegance alone which was studied, and that *internal* decoration of every sort was comparatively disregarded. Indeed, the area contained within the walls of these temples was so small, as not to admit of any ornaments of a grand style; and they were in general buried in such deep obscurity, as not to allow ornaments of delicacy or elegance to be seen, had they been there attempted. Under these circumstances, the architecture of such a people must of necessity have been extremely imperfect, as it must have remained defective in many of those particulars which will ever be deemed indispensably necessary for the accommodation and convenience of a wealthy and luxurious people; those, especially, who inhabit high latitudes, and who, by being under the necessity of living much within doors, must find that internal conveniency and elegance in private houses are, to them, of more indispensable necessity than those external accommodations which were so much, and so justly, admired among the Greeks.

From these considerations I am led to infer, that if the prosperity of Greece had continued for a sufficient length of time to have enabled them to discover the deficiencies of the art of architecture, which they had begun to cultivate only in *one* of its branches; or, if the private wealth of individuals had so much augmented as to introduce a taste for domestic pomp; or, if the nature of the climate and other circumstances had concurred to make public buildings of great extent necessary for the accommodation of the people, in which men could be protected from the inclemencies of the weather without being deprived of light; I cannot entertain a doubt that the lively and inventive genius of the Greeks would have supplied those deficiencies under which their system of architecture, as it has been transmitted to us, most evidently labours. But this not having been the case, we have now to lament, that an idolatrous veneration for that people, who, in many respects, are indeed justly celebrated, should have so far stupified the minds of all succeeding generations, as to have prevented them from ever thinking of supplying these defects: nay, more, to such a height has this infatuation been carried, that after those defects of Grecian architecture have, in one particular at least, been supplied in the most complete and happy manner, so as to display an unrivalled combination of elegancies and conveniencies, which it would have been deemed impossible ever to attain, if it had not been actually carried into execution, and which exhibits a stretch of human powers that is perhaps unequalled in the history of arts, this sublime invention has been contemned and vilified, even until the present hour, instead of calling forth those sentiments of reverential respect which the contemplation of superlative excellence ought ever to excite. But as the splendour of the sun is lost upon the blind, so are the operations of superior genius upon the minds of those who are bemired in ignorance or benumbed by prejudice.

It does not appear that the Greeks ever entertained a thought on any other department of architecture than that which respected the polishing, ornamenting, and adjusting their favourite colonnades; and concerning even that favourite object we are able to discover that they, like every other class of mankind, had a tendency to imitate what they had seen, and to be blinded by the prejudices which they had imbibed in their infancy; and thus have established rules which a sound judgment and chastened taste (the basis of which must ever be common sense) never could have authorised. For example . nothing is more beautiful than the stem of a growing tree which has a gradual taper as it ascends from the root, because no other form, in an elastic body, could be so well suited for carrying the weight of the top it has to support, and for resisting those strains to which an object unsupported above must be subjected when agitated by the wind. Nature furnished them with this model; and, to save the trouble of unnecessary workmanship, they were not at the pains to reduce the bottom of their posts to the same thickness with the top, when they formed them into a colonnade, although there was not now the same reason for the taper form that formerly existed. Thus far, while the materials consisted of wood, there might be little to blame; because the columns were certainly not weakened by that means, and they undoubtedly could be afforded at less expense. But when the columns came, in process of time, to be made of stone, no such argument could be adduced for adhering to the taper form. In this case a column is to be considered in no other point of view than as a perpendicular prop, consisting of incompressible and unelastic materials, which, of course, is as strong as it can be, in as far as respects its form, when it is of an equal thickness in every part; so that the thickness at the bottom is a mere useless waste of materials. Yet, from being in the habit of viewing wooden columns of that form, their eye had become so far accustomed to it, as no doubt to make them deem it elegant, so that they formed their columns of stone after the same model. The power of habit operates equally upon the minds of those in our day who have been accustomed to contemplate with admiration the works of Grecian architecture, as in all respects perfect; and they would, I doubt not, consider it as a great inelegance, were a colonnade in any case to be erected in which the columns were equally thick throughout their whole length. But that this decision originates merely in the prejudice that I have just indicated, I think it will not be difficult to prove. Every person of judgment and taste will readily admit, that any kind of prop (the column alone excepted) that was reared of masonry for the purpose of supporting a weight, would be executed in a very bad taste indeed if it were made of a taper form. I conclude that this would be the case, from the invariable practice of all the best architects, even those who have formed their taste on the Grecian model, none of whom, in any other case, excepting the column alone (or its substitute, the pilaster), ever deviate from the perpendicular form in any sort of pillars. Let me ask any person who thinks himself qualified to judge in this case, what opinion he would have formed of the taste of Inigo Jones, if, when he erected the piazzas in Covent Garden, he had made the pillars to taper inwards at the top, instead of rising to their whole height in a perpendicular direction, as they now do? This case is so exactly in point, and the answer so obvious, that it is unnecessary for me to push the illustration further.

The Grecian artists, however, have run into one other deviation from the principles of common sense, and therefore of good taste, in the form of their column, which can be traced to the same source of imitation as the former; and we, from the same cause, have been induced to follow them in it. The reader will easily perceive that I allude to the swell in the column, of which some artists have been so much enamoured, as to deem it an essential requisite of the most indispensable necessity. For the origin of this defect we need not long be at a loss. Every person acquainted with the force of timber must know that, if a wooden prop were so much overloaded as to be obliged to bend, the yielding would take place toward the middle sooner than at any other place; of course, it would not be rendered in the least weaker by being made smaller at either end than in the middle. On this principle, while wooden pillars were still in use, the practice of making the column swell a little more towards the middle might have come into general use, as a way of obtaining equal strength with a smaller quantity of materials; but as the top of the post was naturally smaller than the base, that would be left in its natural state, while the bottom part only was somewhat diminished in size. This form of the wooden column being thus introduced, it might come to be deemed judicious, and thus be rendered fashionable, and of course be deemed elegant. In this state we may suppose things stood when the Grecian artists conceived the idea of making columns of stone; and, from mere habit, as we may naturally suppose, they adopted that form in preference to any other. After what has been just said, it will be unnecessary to demonstrate the inutility and inelegance of this farther deviation from the principles of true taste in the formation of this favourite object.

When men have, by imperceptible degrees, contracted an overweening fondness for any object of taste, it is surprising to see how far they may be carried into the regions of absurdity without being able to perceive it. Even in Greece itself, where we have been accustomed to believe that no deviation from elegance or propriety in the fine arts could be tolerated, we might find numerous illustrations of this maxim; it will not, therefore, be surprising if we meet with many more proofs of it in Rome, where they did not so much as pretend to think for themselves in regard to this particular. They thought they never could be wrong if they imitated any thing relating to the fine arts that had ever been practised in Greece; and, like all imitators, they went far beyond their patterns in every species of absurdity, though they were unable to equal them in the finer departments of the art. These rough warriors contracted at last such a feverish fondness for the Grecian column, that they seemed to think nothing could be excellent in architecture where that ornament was omitted; and that they could not in any case go wrong if their buildings were only sufficiently crowded with this favourite object. Impressed with these ideas, and forgetting the original use of the column, which alone could ever give it either utility or grandeur (viz., that of standing isolated from a building, for the purpose of supporting a roof calculated to afford shade and shelter from the inclemencies of the weather, while the air was still allowed to circulate freely), they busied themselves in sticking columns close upon the wall. At the first we may suppose they made only one row of these mock columns; but by and by, diminishing their size, they mounted them in rows, as if upon stilts, one above another, till at length they reached the very pinnacle of perfection, by exhibiting four at least of the five orders of architecture on one building (the Colisæum), stuck upon the wall one above the other, in numbers innumerable, round the whole of the pile, like different stages on a cake of gingerbread; with this striking difference between them, however, that it is very easy to bring the eye into such a position as to see every part of the gingerbread cake equally well; but in regard to the building this could not be done. The eye preserves, of necessity, the same elevation nearly when it examines each of the five orders; so that, if the first row of columns be at such a distance and elevation as to allow of all the members being distinctly seen and in due proportions, the last row must be so far off as to make all its members disappear, which is, perhaps, a fortunate circumstance; for, if they could have been seen, they would have seemed to be so distorted, and so disproportioned in magnitude to the great whole of which they formed a part, as to appear ridiculously puerile. After they had come this length, the flattening the columns, which they then denominated *pilasters*, was a natural step; it was an improvement so far as this, that it did not so conspicuously break the surface of the wall. It would have been a farther improvement still, if they had diminished the projection from the wall to the greatest possible degree; and then there would have remained but a slight step to have introduced the greatest improvement that this particular perhaps admits of, I mean, that of omitting them entirely.

I am not unaware of the risk that I run of being despised by a certain set of men, for speaking with such contempt of a practice which has been sanctioned by the greatest architects of modern times; and were I in expectation of being employed as an artist by men of a certain description, or were I a candidate for a seat among the learned society of the *Dilettanti*, perhaps I might think it prudent, like many others, to chime in with the multitude, rather than run the risk of losing the favour of some one of great wealth or power, who dares not move an inch from the track that has been beaten before him. Disclaiming every pretension to the distinguished honour of ranking in either of these classes, I resume the native freedom of a man, which is, to think for himself in all cases, and to disclose his ideas without reserve wherever he thinks that they may have a tendency to enlarge the human mind, to augment the powers of man, and neither to disturb the peace nor injure the property of others. Bigotry, of every kind, I consider as the greatest enemy that is to be found in this globe to the progress of man in every useful pursuit; because, considering the endless diversity of forms it assumes, its influence is more universal than any other enemy whatever; for, perhaps, no one person who breathes is entirely free from its influence. It becomes the duty, therefore, of every lover of mankind to drag to light this blind perverter of truth wherever they can discover him lurking under any kind of disguise, and to expose him in all his native deformity. I do not forget that there was a time when that person who had but expressed a doubt of the infallibility of the pope would have been viewed with horror by many wise and good men; neither do I forget that honest Wickliff, during that dark period, though at the risk of all that was dear to him, ventured, in some cases, to utter the dictates of common sense, in opposition to the stream of prejudice around him. The impression he made at the time was seemingly small; but it became more powerful as the subject was more nearly investigated, till at last the spell was broken, and the infatuation was totally done away. Had he respected prejudices, and had others done so still, because great and worthy men had been drawn away by them, these prejudices might have still prevailed. While, therefore, we venerate the real attainments of eminent men in every department, let us not respect their errors. A time may come, nay, a time will come, when that blind veneration which hath for so many ages prevailed in favour of every thing that is in any way connected with Grecian architecture will be done away, and when we shall be able to view these things as they really are, and reason upon them as freely as upon most other subjects, without either favour or prejudice; for, *Magna est veritas, et prevalebit.* Then will men wonder how it was possible that things so obvious should not have been perceived by many who were undoubtedly possessed of talents which exalted them far above the level of those who will then be able so clearly to see, and justly to appreciate, their involuntary aberrations.

ART. IV. *A General Survey of the present State of Domestic Architecture in the different Countries on the Continent of Europe; chiefly from personal Recollection.* By the CONDUCTOR.

IN this survey we shall take each of the Continental states separately; and we shall notice the dwellings of each in the order of cottages, farm-houses, country inns, villas, mansions, and the different descriptions of dwelling-houses in towns. We shall add a few words on the public buildings of each country, on its architectural literature, and on the prospect which such country affords for a British architect to settle in. We shall commence with Russia, as being the lowest in the scale of civilisation.

Cottages being in all countries comparatively rude shelters from the inclemencies of the weather, their construction will always be found to exhibit some striking feature directly bearing on the climate, the soil, or the situation of the country to which they belong. Villas and mansions, on the contrary, being calculated for men in a more artificial state, are nearly the same in all countries.

In Russia and the other northern countries of Europe, where the winters are extremely cold, the materials and construction of the very rudest huts will be found better calculated to retain heat than those of even villas and mansions in temperate countries; because, in very cold countries, a very high degree of heat within the cottage, relatively to that of the open air, is as much a necessary of life as food or clothing. This is a proof that what are considered the necessaries of life differ in different countries, not only according to the degree of civilisation, but according to the climate and other geographical circumstances.

Russian cottages are almost everywhere built of wood, generally of wild pine trees, rudely squared with the hatchet, and reduced on two sides to an equal thickness throughout. The dimensions of a single cottage are commonly 20 ft. long, 10 ft. broad, and 6 ft. or 7 ft. high. There is seldom any interior division, or any ceiling intervening between the floor and the roof: the latter is generally covered with shingles, and the former of earth or of deal boards.

In constructing a Russian cottage, the first thing is (the situation being fixed on), to form a foundation for the four sides, by low walls, say from 1 ft. to 2 ft. in height, of such stones as can be procured. In many situations, where stones are scarce, this description of foundation is dispensed with; and, instead of it, a platform of earth, 2 ft. or 3 ft. broader and longer than the area of the cottage, is raised to the height of a foot or upwards. On this raised platform, joists, or sleepers, are laid down; and on these are placed the logs, which form the commencement of the walls. Each squared tree or log is made to intersect the others with which it is joined, at the angles of the building, by notching both logs half through, within a foot of their ends. The interstices between the logs are filled up with moss (generally with *Sphágnum* or *Brȳum L.*) outside, and with mud inside. Four more logs, also notched into each other, are then laid; and then four more, till the side walls are 6 ft. or 8 ft. high. The next operation is to build in one end of the space enclosed a stove, resembling the oven of an English country baker, of stones or bricks, cemented with mud, from which is carried up a chimney of the same materials, to the height of about 2 ft. above the ridge of the roof. In, and sometimes on, the chimney is a damper of stone. The roof is next put on in the usual manner, and covered first with boards, the interstices between which are filled with moss, and next with shingles. The floor is afterwards laid with boards or battens, 3 in. or

4 in. in thickness; and the interstices between the logs, in the inside of the walls, more completely filled in with moss, or plastered over with mud. The windows are seldom above a foot square in the clear, and more frequently without a pane of glass than with one. A small shutter, or piece of board, or mat, serves to keep out the weather; and light, for the purpose of carrying on the business of the cottage, is admitted by chinks in the door in winter, and by keeping it open in summer. These chinks also afford the only means of ventilation. In some cottages the dimensions are not so large as those here given; the floor is of earth, and the chimney formed for carrying off the smoke from the oven is of logs and mud.

Such is the skeleton of the ordinary description of Russian cottages, of which very correct views may be seen in the *Travels* of Clarke and others, and in our *Encyclopædia of Agriculture*, Part I.

The cottages in the neighbourhood of Petersburg and other large towns are frequently built of two stories, and present a comparatively ornamental appearance. These cottages are, like the others, entirely built of wood; and, in the same manner, the gables front the road, and are ornamented by a light gallery, about the height of the eaves, and by a pent-roof under it. The only window used is a small square hole, which is opened and shut like the gun-port of a ship. All these cottages are exactly alike: they are built in pairs, and are ranged on each side of the high road. In front, or on one side, of every cottage is seen a deep draw-well, the bucket belonging to which is lowered by a rope, at the end of a long cross-beam, having a balancing weight at the opposite end: this beam acts as a lever, supported by an upright post. Such wells are common in the market gardens about London and Paris, and they are to be found in Greece, in Egypt, in India, and, in short, in every country eastward as far as Pekin.

The lower floor of the cottage is generally converted into a storeroom, and in the upper apartment the inhabitants reside. The interior of these dwellings is dark, gloomy, and ill ventilated. Instead of chairs, long benches are fixed to the walls, which, in many houses, answer both as a seat and a bed. The stores occupy the greater part of the room.

The most ornamental cottages which we saw anywhere in Russia were in some villages in the neighbourhood of Moscow; and these were built, we were informed, at rather more than the ordinary expense, by the proprietor of the estate. They were two stories high, with a small window in the upper part of the gable indicating a third story. The gables, which, as is usual in Russia, fronted the road, were the principal parts of the structure on which ornament had been bestowed. First there was a pent-house or lean-to roof, serving at once as a porch and as a shed, supported by wooden posts with projecting brackets. Over this there was a balcony or gallery, in the manner of those in the wooden cottages in Switzerland; and into this gallery opened a glazed window. Over it there was a second gallery, looking into which was the small window before mentioned, and which was not above a foot square. There were carved barge-boards, and, at their junction at the ridge of the roof, pendants with pinnacles; while, suspended from the pendants, by slender strips of wood or iron, scarcely visible at a short distance, were figures of the sun, moon, and stars. The pinnacle of each pendant terminated invariably in a double-headed eagle. In some of these cottages there were suspended between the upper and under balcony, figures of dogs, and sometimes of horses, and of men with hatchets or with fowling-pieces. The whole of these ornaments, when we saw them, had the appearance of having been newly cut out of fir deal; and we were informed that no other instrument was used for this purpose than the axe. Much laborious carving, or rather notching, had been bestowed on the barge-boards and on the top and bottom rails of the balconies. The latter appeared to project from the gable about three feet; and this was also the depth of the projection of the roof; so that the face of the barge-board and that of the balcony were in one plane. The sides of the cottage were ornamented by a carved architrave round the windows; and in some cases there was a kind of carved railing at about 6 ft. distance from the house in front, and on both sides; with a door or wicket opposite the centre of the gable, which formed an exceedingly good finish to the whole. The roofs were steep, and covered with shingles. The great sources of ornament, it will be observed, in these cottages were, the barge-boards, the balconies, and the pendants and pinnacles. The interior consisted of two rooms with a fireplace or oven between them. The stair to the floor above was a wooden stepladder. The outer room was used as a living-room, and the inner room was a kind of storeroom. This was probably also the principal use of the loft or floor over both. The sleeping-places were benches along the sides of both the lower rooms; and, during winter, the women and children, the latter being swaddled, and the former thickly clothed with sheepskins, sleep over the oven. As we travelled from Petersburg to Moscow alone, and the greater part of the way from Moscow to the Austrian frontier at Brody also alone, we took opportunities of examining the interior of the post-houses and cottages, which, we were informed, were very seldom embraced by British travellers.

The merits of the Russian cottages consist in every part of the structure being formed of non-conducting materials; of these materials being put together in such a manner as very effectually to exclude the external air, and, of course, to prevent the escape of heat; and of the oven or fireplace consisting of a large mass of non-conducting materials, and being entirely within the house; so that, when the fuel is once consumed, and the damper put on, little or none of the heat which has been generated is lost; and, the heated material being a non-conductor, the heat is given out slowly to the atmosphere of the room. In these three particulars the cottages of Russia are worthy of imitation in new countries having severe winters, like some parts of North America, &c., which abound in timber, and where labour is dear.

The bad points of the Russian cottages are, their want of light and of ventilation. A stranger, on entering one of these cottages, is almost suffocated with the horrible effluvia with which it is filled, and the effect on his lungs is such, as almost to deprive him of the power of speech, and of that of standing upright. There is no mode of remedying this evil, without losing a portion of heat; and, of course, incurring an additional expense in fuel, which would not be allowed; as, though the Russian lord is compelled to afford his serfs a greater quantity of fuel than that used by the most cultivated peasantry in Europe, he does it merely because a certain degree of heat is absolutely necessary to keep them alive; and he would not easily be induced to give more than was absolutely necessary for this purpose. In this way a small saving in fuel is made, at the expense of the contamination of the air of the cottage; though it is but justice to both the lords and their peasants to state, that neither the one nor the other of them is at all aware of the advantages of pure air to healthy and cheerful existence.

The first improvement to be made in the Russian cottages is, to increase their means of ventilation; and the next, to procure the admission of more light, by larger windows, and by glazing them. To ventilate effectually, at the least expense of heat, it would be necessary to have an underground tunnel conducted, in dry soil, from a point twenty or thirty yards distant from the cottage, to any other point beneath its floor. This tunnel ought to be at such a depth as to be out of the reach of frost (a matter of less difficulty than at first sight may be imagined, in a country where the ground is covered, during the whole winter, with a thick coating of snow); because the object of the tunnel is to raise the external air, which is intended to enter the cottage by it, to the temperature of the unfrozen earth (which is generally at that depth about 40°) before it enters the cottage. Where the tunnel cannot be sunk to a sufficient depth, on account of the moisture of the subsoil, it may be formed nearer the surface, and covered with a very large bank of earth; which bank of earth might serve as a boundary to the cottage garden. Having provided the means of admitting fresh air of a moderate temperature to the surface of the ground floor of the cottage, the next thing is, to regulate the escape of the contaminated air from its roof. This might be done by a valve connected with a tube in the upper part of the side walls; the tube ought to be several feet in length, with its exterior end bent downwards, to prevent the entrance through it of rain or snow. A more effectual mode would be to carry the tube parallel to the chimney, the heat of which, communicated to the tube, would create a circulation. Enlarging the size of the windows would admit abundance of light, and double sashes might be used at the distance of 6 inches the one from the other, to lessen the escape of heat through the glass.

The Farmhouses of Russia cannot be compared with those of any other European country except Poland. There is, indeed, strictly speaking, scarcely such a thing as a farmhouse, because there are no free farmers. Many of the serfs occupy a certain portion of land, which they cultivate by manual labour; and with the assistance of the horses and implements of their lords, lent to them at particular seasons. The farmhouse of the peasant, therefore, hardly differs from the cottage; unless, indeed, he possesses horses or cattle of his own, in which case his cottage is increased in length, and divided in the middle, and his live stock occupy one end, while he occupies the other.

The farmhouses of landed proprietors are extensive assemblages of wooden buildings of one story high, the principal feature of which is a long barn or barns, with low side walls, and a very high roof; the other buildings are for horses, cattle, sheep, or pigs; they are low and narrow, with doors, but without windows or other openings. These buildings are sometimes disposed round a square or parallelogram court, but more frequently they are set down at random, and, whether they are placed regularly or irregularly, they are invariably detached from each other, in order to prevent the spreading of fire, should it take place. The situation of a Russian farmery is generally within a hundred yards of the dwelling-house to which it belongs. There is so little profit to be derived by the British architect from any circumstance connected with Russian farmeries, that we do not think it necessary to occupy farther space with the subject. In a few situations in the neighbourhood of Petersburg and Moscow, Swiss dairies and German and British farmeries have been established, and bailiffs from the respective countries engaged to manage them. We have given a view of one of the latter, erected in the neighbourhood of Moscow, in the historical part of our *Encyclopædia of Agriculture*.

The Country Inns, or post-houses, of Russia are merely cottages on a somewhat larger scale. They contain no lodging-rooms, and their occupants supply no provisions or drink of any kind to travellers. The sole purpose of these country or roadside inns, except in Courland and Lithuania, is for supplying the traveller with horses. In addition to these, all that can be obtained is hot water, and the accommodation of a seat or a bench in the common room, till the water boils, and the horses are got ready. There are no beds of any kind in these post-houses; the postmaster and his family sleeping on benches near the stove in the winter season, or on the boarded part of the floor, or out of doors on the dunghill in the summer. The inhabitants of Courland and Lithuania are a degree higher in the scale of civilisation than those of Russia Proper. They sleep for the most part in beds, or at least on bedsteads, with which their cottages, and usually their country inns, are provided. These beds are of the very rudest description, being generally narrow spaces, partitioned off the sides of the apartment by boards, and filled up with straw; or they are shallow boxes, into which straw is put, and the occupant's clothes, or bedding, if he has any, is put over the straw for him to lie on. A number of inns have been built in Lithuania by the Russian government, and these have, generally, not only one or two rooms for the accommodation of strangers, but a privy, the latter being seldom, if ever, met with in the country inns of Russia Proper.

The Villas, or Country Houses, of the Russian landed proprietors are of two kinds; first, the ancient houses of the proprietors, which are merely log cottages on a large scale; sometimes, as we were informed by an English gentleman residing at Kiow, consisting only of two large apartments, one for cooking and the use of the servants, and the other for the eating and sleeping of the master and his family; and, secondly, the modern villas, which, even on the smallest scale, have three or four apartments, and which generally have the kitchen in a detached building on account of the risk from fire. The smaller villas are mostly of only one story high, built of logs, like the cottages, but differing from the latter in having the logs covered, on the outside, with boards painted white, or coated over with plaster. The roof is of a low pitch; if possible it is covered with sheet iron, and it is invariably painted with the national colour, green. The interior of the rooms is plastered, and sometimes painted or stencilled. The mode of heating is by stoves of earthenware, the construction of which is too well known to require description. (See *Encyc. of Cott. Arch.*, p. 1029.) The living-floor is generally raised 3 ft. or 4 ft. from the ground, and ascended by steps outside. A few yards from the dwelling-house are seen the kitchen, the well with its lever, and the stack of wood; and, at a short distance, the farmyard, and, in some few cases, a boarded fence enclosing the garden: the appearance of the whole gives the idea of poverty and neglect. The only circumstance worthy of imitation in these villas is the large size of the apartments; which, we suppose, has been found necessary in consequence of the use of double windows during winter, and the consequent total want of ventilation otherwise than by the opening and shutting of the doors, and the lighting of fires in the stoves once or twice in the course of the twenty-four hours. It is very generally supposed, by persons who have never been out of England, that fires are kept burning in the Russian and German stoves all the day, as they are in ours. This is not the case: a bright fire of wood is made in the morning, and, when it is consumed to embers, the damper is closed, and this supplies heat for the day. In cold weather, another fire is made in the evening, which supplies heat for the night. It is only in extremely cold weather that a fire is made in a stove three times in the four and twenty hours, even in Petersburg. We have already mentioned that the windows have double sashes; one of these is taken out at the commencement of summer: when it is replaced, at the beginning of winter, a handful of salt is laid on the window-sill, between the two sashes, to imbibe the moisture contained in the enclosed air, which would otherwise dim the glass of the inner sash, and freeze on that of the outer one.

The larger Villas, or Mansions, of Russia differ little from those of Italy as to general plan and external appearance; but the roofs, being usually covered with iron, are flatter.

Some of these villas, with the church or chapel which generally forms a part of them in the neighbourhood of Moscow, exhibit a picturesque assemblage of domes, cupolas, turrets, spires, and chimney tops, which strike a traveller with astonishment. The domes are sometimes covered with copper gilt; or with block tin plates, unpainted, which give them the appearance of being covered with silver. In general they are painted green, but there are instances of the black colour being adopted; and it is said that the Empress Catherine, on seeing this colour on the roof of a country palace, built for her at Astankina, near Moscow, and the shape of the roof, which was that of the lid of a sarcophagus, considered it ominous, and would not reside in it. Views of Astankina, and of other Russian palaces, villas, and mansions, will be found in the historical part of our *Encyclopædia of Gardening*, edit. of 1835.

The architects of these villas are invariably either foreigners, or Russians who have studied in Italy. Whoever has seen the ground plan of an Italian villa may form a very correct idea of the arrangement of all the modern villas, not only in Russia, but on the Continent generally. The plan is formed, in the abstract, by a series of lines intersecting each other at right angles, and producing a number of square or parallelogram rooms differing only in size. They all open into one another, and into a common passage; so that the tour of all the rooms on each floor, may either be made by going through the rooms one after another without coming into the passage, or by going along the passage, and opening the door of each room. There is a poverty of effect, which is produced by the sameness of form, the want of interior decoration, and the meagre scanty furnishing of such apartments, which presents no idea of comfort, and prevents an Englishman from ever feeling himself at home in such a house. As a very complete example of the Italian villa on a large scale and in its genuine simplicity, we may refer to Salucci's palace of Rosenstein, in our *Encyclopædia of Architecture;* and for the Italian villa, with all the enrichments and improvements which fit it for the residence of a wealthy and refined Englishman, we refer to the splendid design of Mallet and Lamb in the same work, p. 947.

In the mansions of the higher class in Russia, as in Italy, considerable attention is paid to effect, both external and internal. Indeed, as far as design is concerned, several of the mansions at Petersburg, and a number of those at Moscow, are equal to any in Europe. The execution, however, of these mansions is almost always bad; and, indeed, there are very few of them that are ever entirely finished, the proprietor generally exhausting his funds, getting tired, turning his attention to some other subject, or dying, before the work is completed. Hence we frequently find a mansion commenced in brick, and finished with cornices, entablatures, and parapets, and even with columns and architraves to the windows, in wood. The portico is sometimes wanting; and we have seen it, in the case of a mansion in Moscow, partly of brick and partly of wood covered with plaster. In a climate subject to extreme heat in summer and extreme cold in winter, it may easily be conceived that this woodwork, which has generally been put up in a green state, soon separates from the brick or plaster to which it is attached; and this gives the building the appearance of falling to pieces. This is, in fact, the case; indeed, there are no ancient buildings in Russia, from Petersburg to Brody or Odessa, with the exception of the Kremlin in Moscow, and one or two churches in Smolensko and Kiow. The whole country, and all its towns, villages, and mansions, have an appearance of newness seen nowhere else in Europe. What adds greatly to this expression, is the total absence of hills, mountains, and rocks; at least in all the interior of the part of the country generally travelled over by Englishmen.

A country without venerable architectural ruins conveys the idea of one where human society is in a state of infancy. The sight of ruins, on the other hand, carries us back to past ages, and seems to show us that previous generations have existed on the land; that men have lived and made progress, and have given way in order to make room for others to make farther progress. In short, they show the age, the growth, and the power of mankind. A country of ruins is a country full of ideas; one without them is a blank, except to the naturalist. As men come to think more accurately on the subject of architecture, ruins in the Gothic, and especially in the cathedral Gothic, style, will be found to be expressive of a higher degree of human intellect in the builders, than Grecian or Roman ruins.

The Villages and Towns of Russia present few points of interest to the British architect. Being of modern formation, all the streets are wide, and at right angles; and all the houses in the Russian empire are numbered over the door and registered by the police. All the houses in villages are detached, on account of the constant danger from fire; and both villages and private houses are furnished with ladders and abundance of wooden buckets, to be ready in case a fire should break out. The first process, in this case, is always to remove the shingles from the roof over the spot where the fire has commenced, in order to give a vent to the flames, to prevent them from spreading, and to allow free access to the water thrown upon them. Very little attention is paid to either underground or surface draining, or sewerage, in Russian towns, with the exception of Petersburg and Moscow, where, however, the drains are exceedingly imperfect, partly owing to the nature of the climate.

The houses of the wealthy in Russian towns resemble those of the same class in France and Germany. Exteriorly they are in general plain; and interiorly they consist, like the country houses, of a repetition of squares and parallelograms, with few curved lines, with few sources of variety or effect, and with hardly any thing left for the imagination to work upon. The redeeming points are, that all the apartments are comparatively lofty and large; and they are well lighted, though badly ventilated. There are exceptions, and some of the most splendid elevations in Europe are to be found in the streets of Petersburg and Moscow. Views of some of these will be found in Clarke's *Travels;* and views of several of the country houses in the historical part of our *Encyclopædia of Gardening*, edit. 1835. *Fig.* 25. is engraved from a sketch which we took of one of the principal street-houses of Moscow, in April, 1814. The engraving is too small to show the beauties of the architecture; but architects will be enabled from it to form an idea of the splendour of the mansions of some of the nobility in that city. The materials of this mansion are bricks covered with stucco, and the roof is covered with

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sheet iron, and painted green. This was one of the few mansions in Moscow which escaped the ravages of the great fire in 1813.

The Inns in Russian towns are of two kinds: those kept by Russians and those by foreigners. The former are such scenes of filth as no Englishman can have any idea of: they have no beds, for no Russian who sleeps in a bed ever stops at a Russian inn. They merely supply food and drink, cards, and a billiard table. The inns kept by Germans, Italians, and French resemble the inns of other parts of the Continent. They are almost entirely used by foreigners; for Russian noblemen, when travelling, never stop to sleep, but at the houses of their friends. If a nobleman at Odessa has no friends between that place and Moscow, he travels night and day till he arrives at that city.

The Shops in the towns of Russia are neither numerous nor showy; because the common places for making purchases are the bazaars and markets. The bazaars, both in Petersburg and Moscow, are grand and impressive buildings. The plan is commonly quadrangular; some of them being as much as 300 ft. on a side; and they are surrounded by a spacious colonnade or arcade. The effect is simple and grand; and the broad paved walk within the arcade affords an agreeable source of exercise and recreation, both in winter, when the temperature, under any kind of roof, is somewhat milder than that of the open air, and in summer, when it is somewhat colder. Each shop usually consists of one room or front shop on a level with the paved walk, a back shop or warehouse on the same level, two cellars below, and two living-rooms above. The living-rooms have sometimes windows looking into the colonnade, but in general they are over it, and are concealed by its parapet.

All the Domestic Architecture of Russia belongs to the classic style; and, in general, to that modification of it employed in Italy. One or two of the churches in Petersburg and Moscow exhibit some mongrel attempts at Gothic, or at Turkish or Saracenic architecture; but these are buildings erected previously to the middle of the 18th century. All the edifices which have been built since the time of Catherine are in the modern classical style. In their construction they do not display any particular mathematical or mechanical skill; nor, indeed, is this required in a style of architecture in which the arch is but little employed. In public buildings, such as the bridges, churches, riding-houses, and exercising-house (the two last being most important buildings in such a climate as Russia), considerable skill has been shown in the construction of roofs. The roof of the *Grande Salle d'Exercice*, at Moscow, which we have described in our *Encyclopædia of Architecture*, p. 970. (and of which *fig.* 26. shows one half of one of the trusses), is generally considered to be that of the largest span in Europe, the house being 150 French feet wide. In the spires, towers, and domes of churches, no great skill is shown; on the contrary, the columns and supporting walls are generally disfigured by wrought-iron tie rods in every direction. If the Russians were to attempt to construct churches or other buildings in the Gothic style, they would utterly fail; unless they adopted a very superior mode of execution, as well as of construction, to what they have at present, or to what the classical style requires. The Gothic style, however, is not adapted to a rude and unscientific people; nor even that composite modification of the classic style, in which columns support semicircular arches, as in the beautiful elevations of the Hungerford market, &c. The most suitable style for Russia, in its present state, is that which has been adopted, the plain post and impost.

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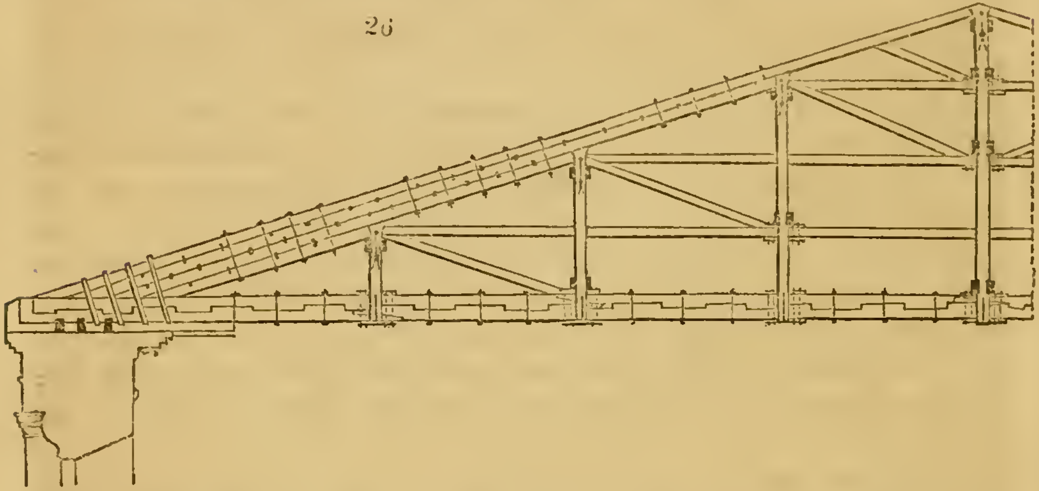

It is not to be expected that Russia should have produced any *Architectural Writers.* Some of the foreign architects who have been employed by the government, and have settled in the country, have published engravings of the edifices constructed from their designs. Cameron, a Scotch architect, who was extensively employed at the palace of Tzarsco-

Celo, and the Casan Church, published several engravings. The Italian architect, Quarenghi, had it in contemplation to publish a volume containing engravings of all the edifices he had designed in Italy and Russia, and presented us with many of them, some of which are still in our possession. We believe the copperplates were also sent to the late Mr. Taylor, architectural publisher, who declined making any use of them, and we suppose they are now lost. Camporezi of Moscow, an architect of taste and intelligence, also very kindly gave us many of his designs (some of which he had had engraved), of works executed in Moscow and its neighbourhood. Several designs of bridges and public buildings were also, we believe, engraved and given away by the late architect and engineer, Bétancourt.

As a Country for a British Architect to settle in, much cannot be said in favour of Russia, but still we question whether there is any other country in Europe, at the present moment, where a British architect could settle with a greater prospect of success. It is almost essential for a stranger architect to get himself employed by the court, as it is this circumstance alone which forms a guide to the nobility, not only in Russia, but in every country on the Continent where a court exists. When an architect or artist of any description is once firmly fixed in Russia, his authority, in professional matters, is never doubted; and, if he is not liberally remunerated in money, he is, at least, treated with consideration by persons of rank, and rewarded by snuff-boxes, rings, and crosses of different orders. The worst point, with reference to settling in Russia in any capacity whatever, is, that it has a tendency to contaminate the moral principle, and to extinguish public spirit; since, as no interest can be taken in public politics, and intrigue enters more or less into every private transaction with the great, the whole attention of the individual is necessarily directed to self-advancement, without the same scruples, as to the means by which it might be procured, as would be felt by any well-educated man in England.

ART. V. *Notice of Architectural Ornaments manufactured in Artificial Stone by Mr. Austin.* By the CONDUCTOR.

WE greatly admire Mr. Austin's productions, and more especially since he has improved his manufacture, so as to leave no doubt in our mind as to its great durability. If we had a house to build for our own occupation, we would arch over the whole of the kitchen story; over these arches we would construct

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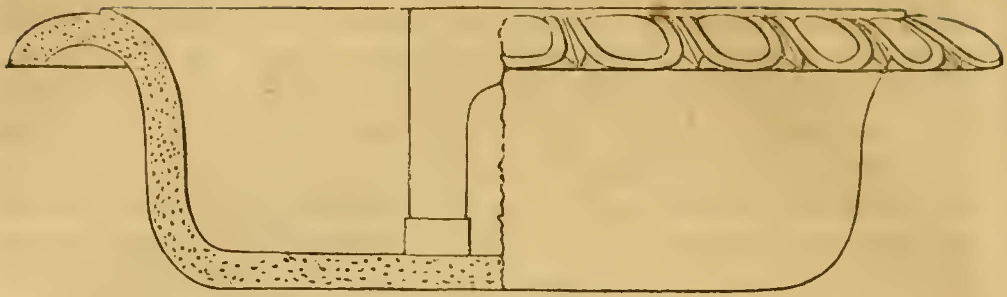

flues, in the Roman and Chinese manner, which we have recommended for the floors of cottages; and the flooring over these flues we would form of one compact smooth body, without a joint, similar to the floor of Mr. Austin's statuary yard in the New Road. We are convinced of this, that by no means whatever could a house be more effectually, safely, healthfully, and economically heated. We were convinced of this when we recommended the plan for heating cottages, in 1829, in the *Gard. Mag.*, and subsequently in our *Cott. Arch.*, and we have been strongly confirmed in our opinion by the remarks of Mr. Alfred Beaumont, in his pamphlet on Fireproof Buildings, reviewed in our last Number. Once insure the warmth of the floors of all the rooms on the ground, or, as it is commonly called, the parlour, floor of a house, and there is no fear of the upper rooms being kept at an insufficient temperature. Nay, as Mr. Beaumont has shown, warm only the entrance hall and the parlour floor passages in this manner, and you attain the object. It is one great recommendation to this plan, that, requiring arched ceilings over the basement story, it renders a house in a great measure fireproof; and another recommendation is, that the fires may be kept up by cinders only, and that they thus will require nothing but common attention from

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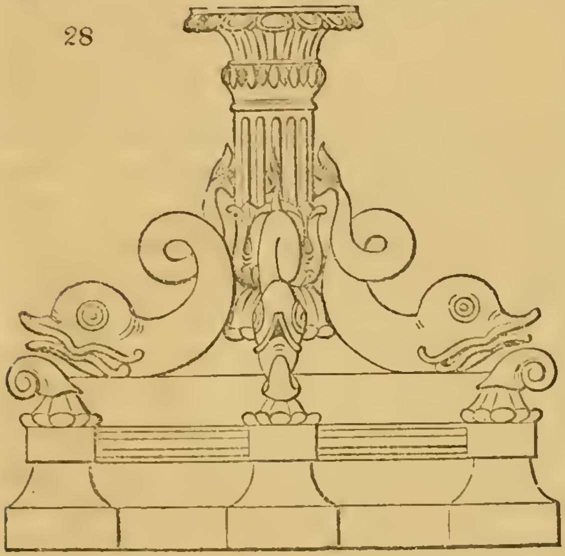

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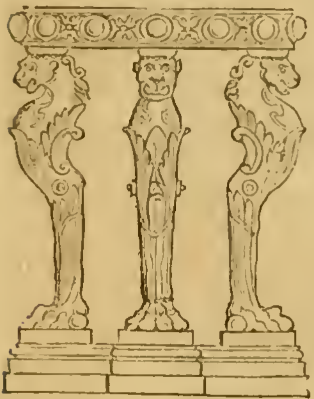

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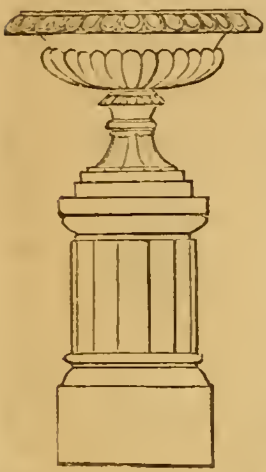

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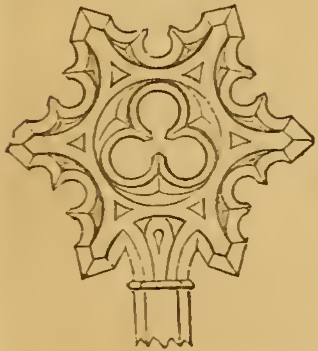

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servants. It is a great mistake to suppose that the smoke of coal can be consumed in any description of fires, furnaces, or stoves suitable for a common dwelling-house. The intensity of heat required for this purpose, as well as the nicety of management, is practically too dangerous for a common dwelling, and beyond the care and attention of common servants: smoke-consuming apparatus are only suitable for public buildings or manufactories. We say this advisedly, and from dear-bought experience. Simple means, that have been tried and proved for ages, are what may be most safely recommended, and the mode of heating floors by smoke flues is as old as the days of Pompeii. But we are deviating from our purpose, which was merely to give a few specimens of articles manufactured by Mr. Austin. We shall do this at random, from articles exhibited in his statuary yard, to show the universality of its application.

Fig. 27. is a dissected view of a tazza vase, which may be used either as a basin for water, with or without a fountain in its centre, or for plants in pots; the latter to be placed in it, and covered with moss so as to conceal the pots; and renewed as the flowers decay.

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Fig. 28. is an architec-

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tural fountain, which may be surmounted by a jet of metal, forming any description of mechanical device. Such devices are shown in detail in the *Bon Jardinier* for 1835, just published.

Fig. 29. shows supports for consol or pier tables, or for vases for flowers or water, or for a bird-cage, or an aquarium for gold fishes.

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Figs. 30, 31, and 32. are enriched tazza vases of different sizes, and variously ornamented.

Fig. 33. exhibits a tazza vase and pedestal.

Fig. 34. is an eagle.

Fig. 35. to *Fig.* 49. are Gothic ornaments.

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Art. VI. *Remarks on Bell Towers and Steeples.* By Mr. William J. Short, Surveyor.

It appears to me to be a great error, in the building of churches, to place the whole mass of the tower apparently on the slates; as is frequently done, particularly in churches and chapels in the Grecian style. Perhaps this practice may have arisen from a wish to retain, as much as possible, the simple form of the ancient temple; but I think it will be acknowledged that, however beautiful a tower may be, it must seem ridiculous, even to a common observer, to place such a high and weighty erection on such fragile materials as the roof of a church, without any prepared base; or, to the eye, any sufficient support.

Supposing it to be desirable to make our modern churches ancient temples, the present practice of placing a narrow and slender tower immediately over a broad and massive portico, say of the Doric order, has an effect quite opposite to that which it was intended it should produce; for it much detracts from the simple and noble appearance of the portico. The pediment, being a finish to the portico, requires no such addition; and, besides, it appears, to persons ignorant of its construction, too weak to be employed as a support for such an enormous weight as that of a tower, while it cannot be said that the connection adds anything to the tower itself.

Towers would certainly have a much more substantial appearance if the bases on which they were erected were in all cases entirely exposed to the observer. If the simple form of the ancient temple be combined with that of the modern tower, it should be in such a manner as for the one not to interfere with the other. It might, in some cases, be advisable to place the tower at one end of the building, on its own base from the ground, and the portico at the other; and, by this arrangement, the artist would have an opportunity of exercising his taste on this peculiar part of the building, without being confined for space. I know of no objection to the tower being at the east end of a church. One example, at least, is in existence, namely, that of Brixton Church; and I think the architect, Mr. C. F. Porden, has shown great judgment in his design. Instead of the east end being merely a dead wall, as is too often the case, it has in this church a light architectural elevation; and the tower, which rises from the ground, and is broken off from the main building, though it is embraced in one view, has a much more magnificent effect than if it were attached to it, appearing higher than it really is. By this arrangement, also, that little unsightly and unattached building called the vestry room may always be very conveniently placed immediately behind the altar in the base of the tower; while, in skilful hands, the space above it might be employed to give effect to the upper part of the altar, viewed from the interior of the church.

By following this method, there would always be, at the west end, a good breadth and sufficient height to admit the design of a portico of fair proportions, so as to retain its original simple and noble outline, without detracting from, or interfering in any way with, the beauty of the tower.

In all the churches in London erected by Sir C. Wren, he has avoided placing a tower on the roof, always making it form a part of the principal elevation, and relieving it from the body of the church. I believe there is no design, of which he was the author, of a portico and tower together; and, as he was in most cases confined for space, having only one elevation to the street, he, with his usual good judgment, omitted the portico altogether; the tower being then considered indispensable in church architecture.

His pupil, Gibbs, in the church of St. Martin's in the Fields, has combined the portico and tower together at the west end; but, in my opinion, the portico would have been more chaste and elegant without the addition of the tower springing from it, as the latter could have been placed at the east end. The building, however, shows the architect's great taste in applying the two columns in the flank of the portico, in such a manner as to form, when viewed from certain points, an apparent base to the tower.

I have often heard persons observe, since this church has been thrown open to the public view, that they could not see much

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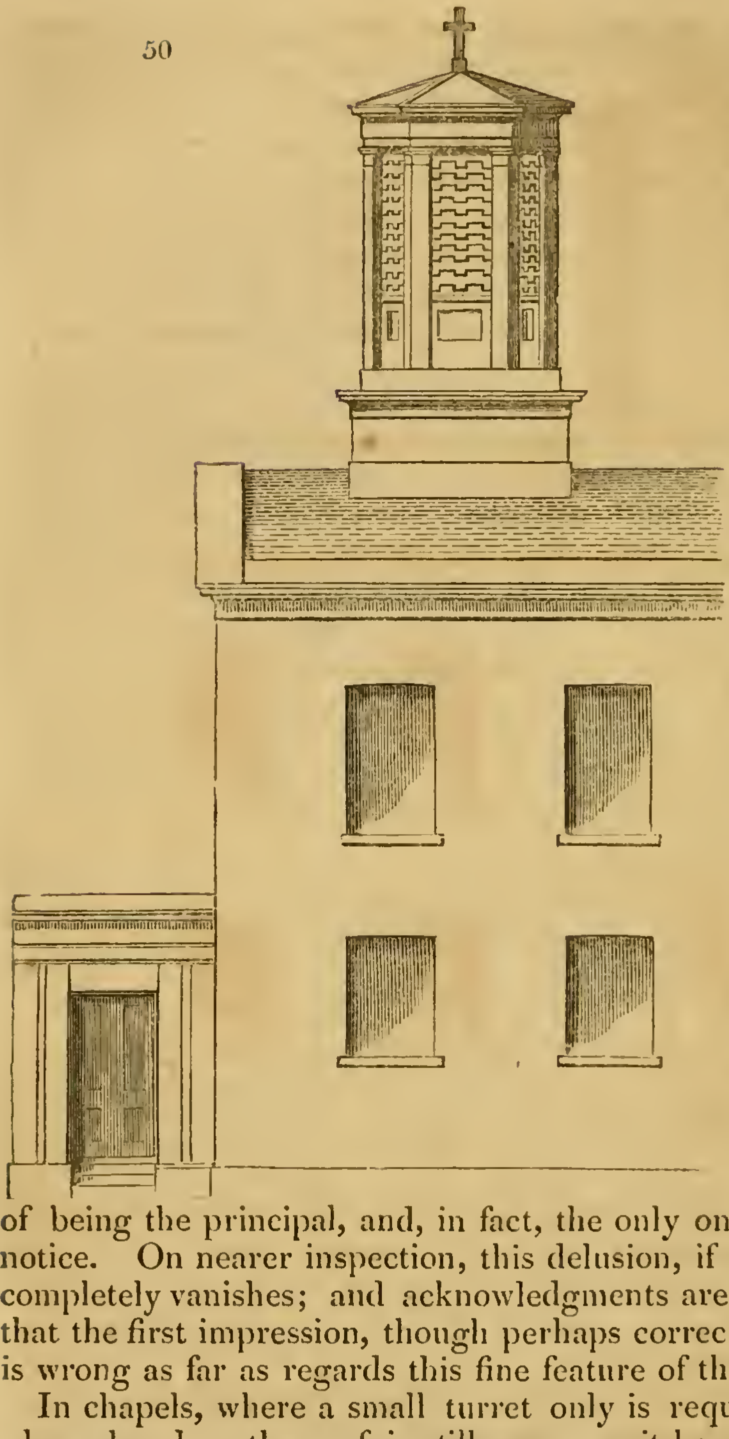
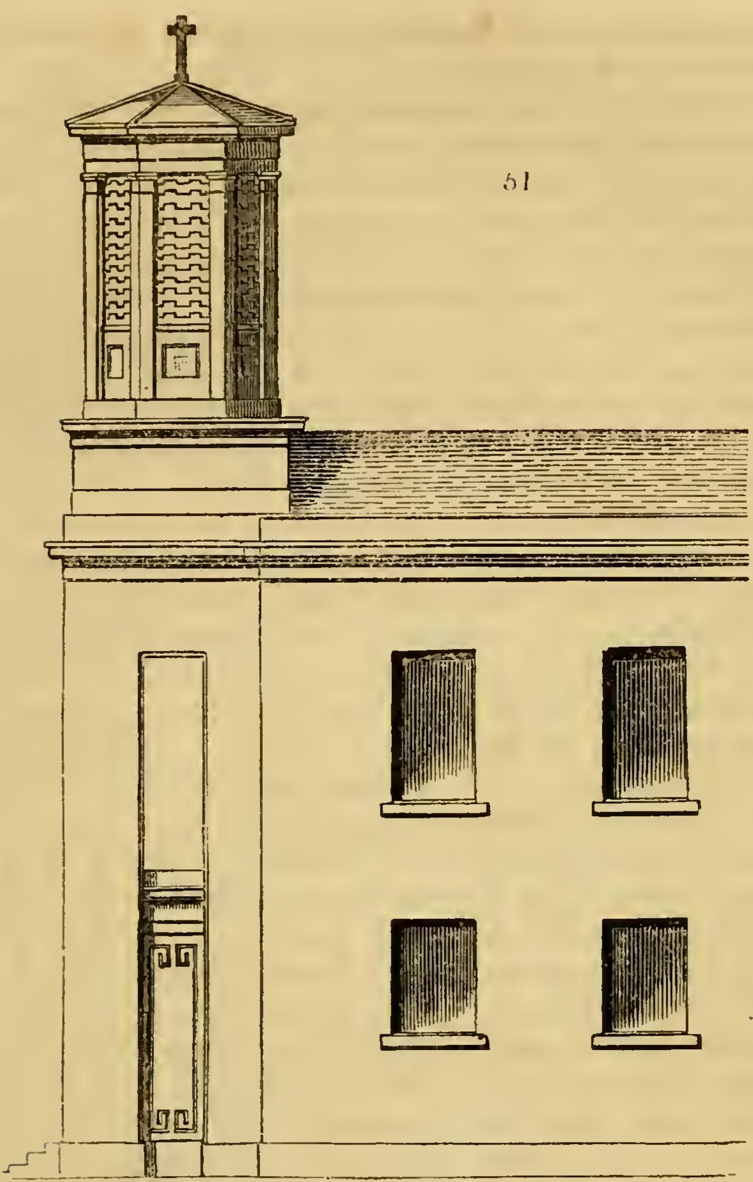


to admire in its really elegant portico, when looking at it from a moderate distance. This feeling may arise from the injudicious situation of the tower, the observer's attention being drawn from the beautiful outline and just proportions of the portico, in consequence of the tower being placed so as to catch his eye at the same time, So many different forms and masses being seen all at once, the impression left on the observer's mind is that the portico is only a minor object, instead of being the principal, and, in fact, the only one worthy of his notice. On nearer inspection, this delusion, if I may so call it, completely vanishes; and acknowledgments are generally made, that the first impression, though perhaps correct as to the whole, is wrong as far as regards this fine feature of the building.

In chapels, where a small turret only is required, the effect when placed on the roof is still worse, as it bears no proportion whatever to other parts of the building.

Fig. 50. is a sketch of the portion of a chapel in the neighbourhood of London (and there are many similar chapels to be seen) with a tower placed on the roof, broken or detached from the rest of the building, in consequence of the slates being quite a different colour from the materials used in the construction of the turret.

Fig. 51. shows the same turret with a base from the ground;



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the expense of which would not be much greater than the other; as extra-timber is required to support the turret on the roof, the value of which would nearly pay for the piers to support the turret from the ground; and, as the latter divides the elevation of the west end into three parts, by the projection of the turret, the piers, and the entrance, it bears a better proportion to the whole mass of the building.

Clapham, Oct. 1834.

Art. VII. *A short Account of St. John's Market, Great Charlotte Street, Liverpool, with some Notices of the other Markets in that Town.* By J. A. P. Architect.

As a supplement to the description of Hungerford Market, in your Magazine for April (Vol. I. p. 53.), perhaps a short notice of the covered markets in Liverpool may not be unacceptable to your readers.

The market of Liverpool was originally held in the open area at the end of Castle Street, round St. George's church, formerly occupied by the castle and its precincts. As the extent and population of the place increased, additional accommodation becoming necessary, other markets were opened in various parts of the town. The original market, however, still continued the favourite with the public, and the business carried on in it increased, in consequence, to such an enormous extent, and encroached on the neighbouring streets and thoroughfares to such a degree, as to become a serious annoyance and obstruction to all business not immediately connected with it. The alternate exposure, also, of both buyers and sellers, and the perishable commodities they dealt in, to the fervid blaze of a July sun, and the drizzling showers of December sleet, became in these modern days of refinement, a subject of very general complaint. To remedy these evils, our munificent corporation determined to erect a market which should afford an effectual protection from the weather, and at the same time prove no obstruction to a public thoroughfare. A suitable situation was soon chosen. While the business in the old market had been rapidly increasing, the tide of population and building had set in in quite a different direction, so that the market, not having the power of locomotion, had been left behind; and, from being at first tolerably central, had become at length something like wedged into a corner. Our magnates, therefore, considered it better to send Mahomet to the mountain, rather than bring the mountain any longer to Mahomet; or, in plain English, to send the market to the inhabitants was thought more advisable than to bring the inhabitants from a great distance to the market. The edifice now called St. John's Market was accordingly commenced in August, 1820, and completed in February, 1822, from the designs of John Foster, Esq., architect to the corporation, at a cost, exclusive of the land, of about 35,000*l.* It is situated on the west side of Great Charlotte Street, having Elliot Street to the south, Market Street to the west, and Roe Street to the north. The form of the ground plan (*fig.* 53.) is an oblong square, or parallelogram, 549 ft. in length, and in breadth 135 ft., the whole area of which, not very much short of two statute acres, is entirely covered. I believe this, if not the very first, was one of the first markets in the kingdom, in which the principle of covering in the whole under one roof was attempted; at least on a scale of any considerable magnitude. The roof is constructed in five divisions; two of which (see *fig.* 52.) are raised considerably above the others, forming a clerestory, pierced with windows for the admission of light and air. The tie beams of the lower

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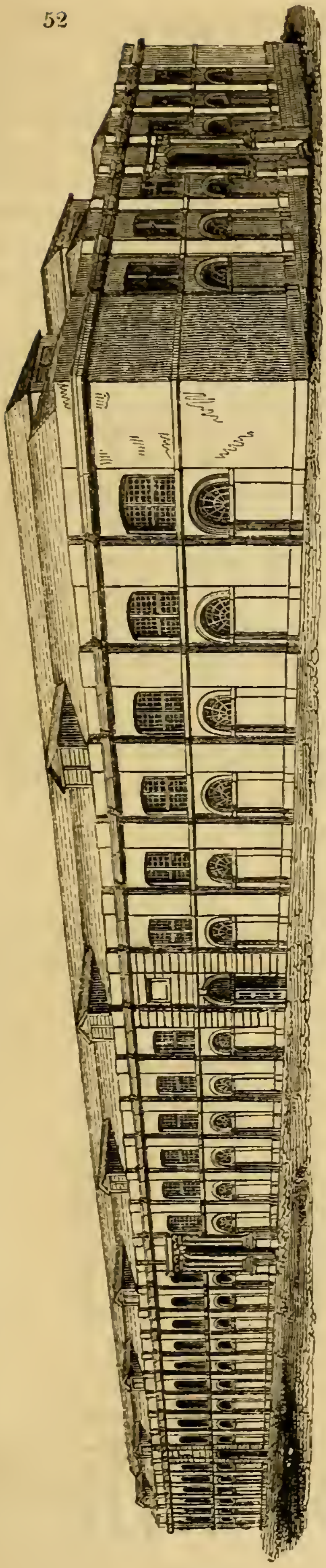

trusses are continued across the opening of these clerestories, from side to side of the building, binding the whole together; and, at the point of their intersection with the gutter beams, are supported by five rows of cast-iron columns. The exterior is built with brick, in a plain and simple, but neat, style of architecture. Piers are projected at regular intervals, round which the cornices and stringcourses break. Between these piers are inserted two tiers of windows, the lower semicircular, with stone architraves and imposts; the upper tier finished with segmental brick arches. The whole is raised on a stone plinth, under which, where the declivity of the ground admits of it, there is carried up a rusticated stone basement. There are eight entrances, three on each side, and one at each end. The principal entrances are faced with Italian Ionic columns on pedestals, with entablatures over, and semicircular-arched gateways. The interior arrangement will be readily understood from the plan. (*fig.* 53.) Round the walls internally are ranged sixty-two close shops, occupied by butchers, fishmongers, bread-bakers, cheesemongers, poulterers, dealers in game, &c. By taking advantage of the fall of the ground on the west side, next Market Street, the shops on that side have storerooms underneath, opening to the street. There are five longitudinal avenues: the centre one, 7 yards wide, intersected by five cross avenues. The squares, or islands, formed by the intersection of these avenues are appropriated to the dealers in the various articles of necessity and luxury, which administer to the support or pamper the appetite of the outward man. In the centre a large clock is suspended from the roof.

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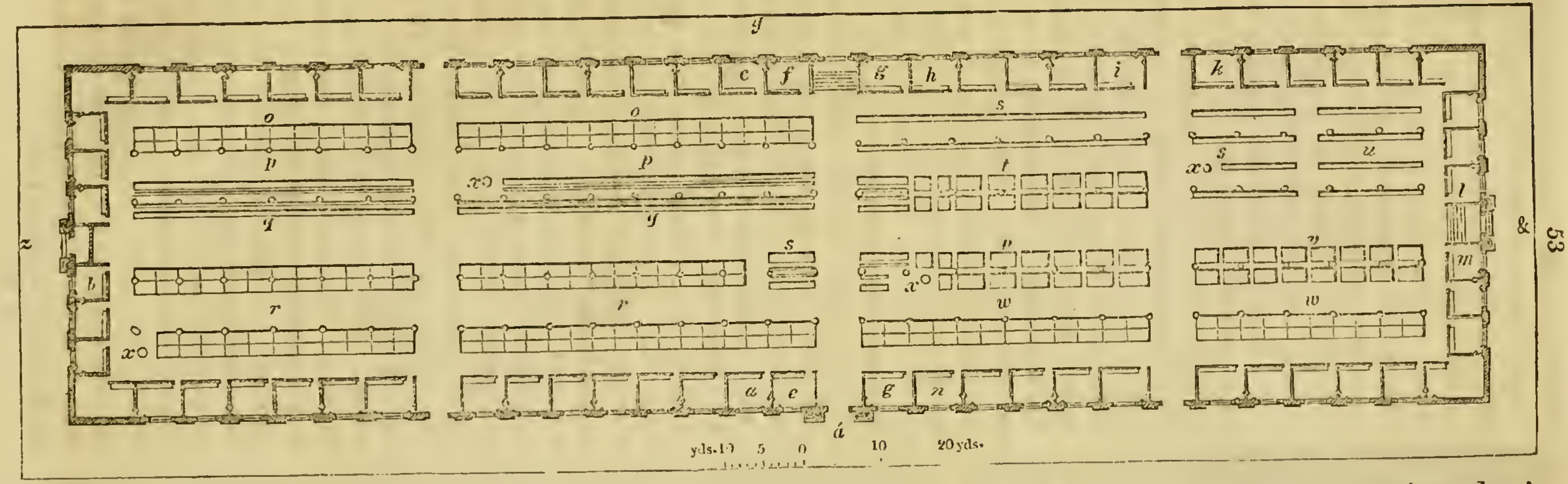


The shops from *a* to *b*, and from *b* to *c*, are occupied by butchers, pork dealers, &c.; *e* is the superintendent's counting-house; *f*, the office for the collectors; *g g*, rooms for the market weighers. The shops from *h* to *i* are occupied by fruiterers; those from *k* to *l* are occupied by fishmongers; and the shops from *m* to *n* are occupied by dealers in salt provisions, butter, and cheese, and by bread-bakers; *o o* are bacon stalls; *p p* are tables and benches for eggs and butter; *q q*, for the sale of poultry; *r r*, butchers' stalls; *s s s*, benches; *t*, fruit stalls; *u*, fish stalls; *v v*, stalls for vegetables; *w w*, stalls for the sale of potatoes and eggs; *x x x x*, pumps; *y*, Market Street; *z*, Elliot Street; *&*, Roe Street; and *a'*, Great Charlotte Street.

The simplicity and convenience of the arrangement will be obvious on inspection, and do great credit to the distinguished architect by whom the building was designed. The beautiful perspective formed by the vistas of columns 183 yards long, particularly in the evening, when illuminated by successive rows of brilliant gas lamps; and the grandeur of effect produced by the uninterrupted extent of vision in every direction of the busy scene, form altogether a picture that must be seen to be fully appreciated.

It only remains to add, that the ventilation is complete. In the summer a delightful coolness pervades the atmosphere, while in the winter it is all that could be desired as a protection from the inclemency of the season. There is a plentiful supply of the prime requisite for insuring cleanliness, good water.

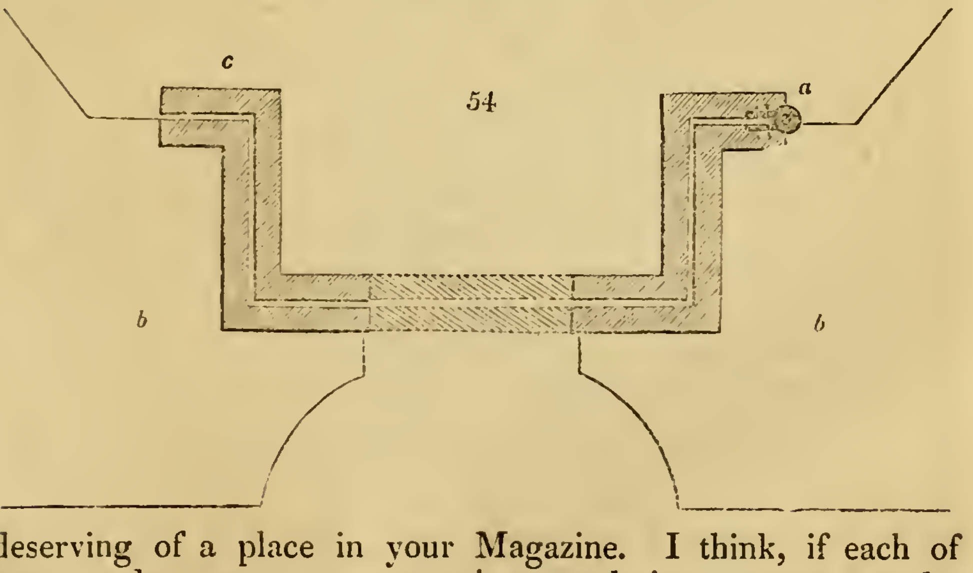
Since St. John's Market was completed, two other covered markets have been erected in Liverpool: St. Martin's, Scotland Road, at the north end of the town; and St. James's, St. James's Street, at the south end. These buildings are not equal in extent to the one described above; but in other respects are constructed in a similar manner, though with more pretensions to exterior architectural effect.

A building is about to be erected on land contiguous to St. John's Market, to be appropriated exclusively to the sale of fish, which will then be excluded entirely from the larger market.

Liverpool, August, 1834.

ART. VIII. *A Waterproof Casement.* By MR. SAUL.

Fig. 54. is a waterproof casement, which I met with in the shop of Mr. Maitland, plumber and glazier, which I think is very



deserving of a place in your Magazine. I think, if each of your readers were to communicate such improvements as he might meet with in different parts of the country, which have not been published, it would be a public benefit. You are aware that casements are much used in this country; it is, therefore, very desirable that all the different modes of forming them should be known. The frame of the casement is made of iron, and may be fixed in either wood or stone of any size. The figure will show that this plan is a good one; but, perhaps, some of your readers will be able to furnish you with drawings of a better: *a* is the hinge: *b b*, the stone jambs of the window; and *c* the falling or closing style, to which the fastening is attached.

Lancaster, Sulyard Street, July 28. 1834.

Art. IX. *A Suggestion for improving the Footpaths in the Neighbourhood of large Towns; and, ultimately, all over the Country.*

By A. P.

Every one who has had much experience in walking on the flagstone footpaths of a town, and the gravelled footpaths of its neighbourhood, will allow that he can walk three miles on flagstone, with less fatigue than he experiences in walking one mile on a gravelled footpath. I live at Kensington; I go in every morning as far as St. Paul's in an omnibus, and I walk out the whole way every evening. Now, I have no hesitation in stating, that I am more fatigued in walking the mile of gravelled footpath from Hyde Park Corner to Kensington, than I am with the three miles between Hyde Park Corner and the Bank. By what means, then, short of the expense of laying the footpaths with flagstone, instead of gravel, can these be made equally pleasant to walk on? My answer is, lay one line of flagstone along the centre of the footpath; or, what would probably be better, sink a groove to the depth of 6 in. along the centre of the path, and fill it with Austin's artificial stone, or with some equally durable composition. By the appearance of a portion of Austin's artificial stone, laid down at the entrance to his premises in the New Road, and which, I understand, has remained there a long time, it certainly seems to be more durable than either Yorkshire or Portland pavement; and I should think it would answer much better than any pavement, even if it were not so durable, from there being no joints in it to sink and rise with changes of the weather, and thus to run the risk of causing passengers to stumble. I have ascertained that a breadth of 18 in. will be amply sufficient for one person to walk on, and I believe this breadth could be laid down, all expenses included, at the rate of 1*s*. a foot, or 264*l*. a mile. Were all the footpaths at the sides of the public roads round London laid with ribands of pavement in this manner, to the distance of only five miles from town, the comfort to thousands that would be produced would be immense; and greatly also would the expedition be increased of persons sent with messages, and workmen going to and returning from their places of work.

It may be alleged that one riband for a footpath would not be sufficient; and, certainly, for roads much crowded, two, at a distance of 3 ft. apart, would be better; but I shall be content to see one tried, fully persuaded that the public advantage resulting would soon occasion similar paths to be generally adopted.

REVIEWS.

Art. I. *Der Neue Friedhof vom Frankfurt am Main, &c.* Quer-folio. The New Cemetery at Frankfort on the Main. Oblong folio, with Seven Plates.

The practice of inhuming the dead within churches and churchyards is one of those customs which, though countenanced by long-established example, deserve to be abolished. In large and densely inhabited cities it is positively injurious to the living; especially when bodies are interred within such buildings as our protestant places of worship, which are merely calculated for the assemblage of a congregation; and are not spacious and lofty edifices, only certain parts of which are appropriated to the actual service. Desirable, however, as it is, that proper cemeteries, apart from all habitations, should be provided, such a change can be brought about only by degrees. It is satisfactory to know that a beginning has been made in this country. One cemetery is already formed in the vicinity of the metropolis; and a project for a second, if not for a third, is in actual contemplation; besides which, there are extensive public cemeteries at Liverpool, Manchester, Portsmouth, &c. The one at Frankfort, of which a concise account (together with plans and other engravings) constitutes the volume before us, was opened on July 1. 1828. It is a regular parallelogram of 1120 ft. by 630 ft. enclosed on its two longer sides, and partly on that forming the entrance, by a wall about 10 ft. high; the centre of the wall last mentioned being occupied by an open propylæum between two wings, extending altogether 200 ft. In one of these wings is the residence of the overseer and assistants; while the other contains ten cells, in which bodies and coffins are deposited previously to interment, besides a bath and a chamber, to be used in case any signs of life should be perceived. It should be observed that, as a precaution against premature interment, cords are fixed to the fingers of the deceased, communicating with a bell, so that the least motion, in case of a person's revival, would be instantly made known to an attendant stationed in the apartment adjoining these cells. There is also a spacious waiting-hall on each side the entrance, for the accommodation of those who accompany the funerals. The farther end of the cemetery, namely, that facing the one just described, is a continued structure, forming an arcade or open cloister of fifty arches, with as many family vaults below; and sculptured monuments to the deceased are to be placed against the wall of the cloister itself, which has the same number of recessed compartments, answering to the open arches. The ground within the enclosure is laid out as what is termed abroad an English garden; and a certain portion on each side of the entrance is allotted for large detached tombs and mausolea, like those in Père la Chaise.

Independently of the greater economy with which funerals are here conducted, one most praiseworthy and exemplary regulation is that which relates to the precautions observed to ascertain whether death has actually taken place, and to promote reanimation in case any appearance of life should be discovered. So careful are they on this subject, that it is strictly prohibited to inter any corpse until infallible signs of decomposition shall have manifested themselves. This is, indeed, of importance to the living; for of all the horrors that can present themselves to the imagination, nothing can equal the dreadful idea of reviving when nailed down in a coffin: the bare thought of its possibility is maddening. One most horrible instance of the kind was reported to have occurred not very many years ago, in the case of a Prussian nobleman, whose body was found, on the vault being shortly afterwards entered, lying on the floor with its skull fractured, the wretched man having, in his distracted phrensy, dashed out his brains against the wall.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Domestic Notices.*

ENGLAND.

THE Houses of Parliament. — By the kindness of the architects we were enabled to inspect these houses, and, on the whole, we were gratified by their appearance. The House of Commons is a well-proportioned room, most commodiously fitted up; and, as far as style is concerned, it belongs to classic architecture. It is far superior, in point of room and light, to the former house, though in regard to taste it appears to us to be palpably deficient. All below the galleries we shall not find fault with; but above them it is lighted by semicircular windows, like those of stables, the lines of which have no relation to any other lines in the interior; and the simulated beams which appear to support the roof are made to rest on naked walls, instead of being supported by brackets or pilasters, or by a frieze. When we look at the two ends of the room, and see there square pillars with Roman finishings, supporting a frieze, the simulated beams resting on the naked walls appear not at all consistent with unity of system. But, indeed, the very first glance at the house has the effect, on a person whose eye is accustomed to expect this quality, of convincing him that it was no desideratum on the part of the architect.

The House of Lords is inferior to the House of Commons in its general proportions and commodiousness; though it is much superior to it in unity of style and consistency of finishing. It is too narrow for its length. The whole is fitted up and finished in the Gothic manner; and, judging of it according to this style, the only fault that occurred to us on a hasty glance was, the want of pinnacles, or upper ornamental terminations, to the standards in the front balustrades of the galleries, to correspond with the under terminations or pendants. The latter are rich and appropriate, and the former seem mutilated or unfinished. This is a palpable omission, which certainly ought to be corrected. Perhaps it may be intended to add upper ornaments to the standards, in which case our criticism is premature; it cannot, however, be so with regard to the form of the windows, and the want of system in the ceiling beams of the House of Commons. The latter ought certainly to be altered immediately.

Both houses are heated by hot water; the plates being contained in pedestals and tables. A better mode, in our opinion, would have been, to have had the hot-water tubes or plates under the floor, with a grating over them. In heating all kinds of rooms, whether private or public, the great object is to communicate warmth to the floor; and, this being done, the warmth is sure to ascend to the upper part of the room.

Perhaps it may be considered premature or unreasonable to criticise buildings which are avowedly only temporary; but it must be considered that the test both of genius and ability, in an architect, consists in his acting with effect in the moment that he is called upon to do so in untried situations.

The execution of the work is good, and certainly the greatest credit is due to all parties concerned for having the whole in such an advanced state, and apparently so very complete. The *papier mâché* work of Mr. Bielefeld, and the graining and paneling of the painter (we have not heard his name), have certainly contributed materially to this result.

The Model of a Cooking Apparatus in which heat is elicited by the admission of water to some other substance, is now (Feb., 1835) exhibiting at the National Repository, in Leicester Square. It is a box, 1 ft. on the side, and 2 ft. high, composed of brass plates. The interior appears to consist of three drawers: two for containing the mixture or substance from which, by the addition of water, heat is generated, and one between these two, for containing the beefsteak or other article to be cooked. Over the upper drawer is a space for water to be boiled. We saw the steak cooked, and a glass of brandy and hot water mixed. The question of the utility of this contrivance will depend almost entirely on the cost of the material employed for generating the heat, relatively to the quantity of heat produced, and its duration. Of these we have no means of judging farther than that the inventor says, that the materials, after the first cost, may be kept in order for about a guinea a year. If so, they might probably be used advantageously for heating a room without a fireplace, or a green-house. A chemical friend suggests that the substance into which the water is poured is probably sulphuric acid, which produces an intense heat; and the water can be separated from the acid by boiling. Heat might also be produced sufficiently intense to cook food by pouring water on quicklime, as is now done at the Exhibition in the Adelaide Rooms, and the carbonic acid gas and water absorbed during the process discharged by reburning. If heat and light be, as is now generally supposed by philosophers, not material substances as Dr. Black was thought to have proved, but vibrations of the nature of those which produce sound, some more elegant plan of procuring heat without fire will doubtless be sooner or later invented or discovered.

Cornwall. — A Column is about to be erected at Truro, as a tribute to those enterprising travellers, Richard and John Lander. It is to be a fluted Doric column, of the hardest and finest Cornish blue grit granite; and the total elevation, statue included, will be 80 ft.; the statue of Richard Lander being 9 ft. and the die 20 ft. high. It will be erected at the top of Lemon Street, the finest street in Cornwall. Sir Charles Lemon has handsomely given the site, and intends letting the surrounding ground for building upon as a crescent or square, as soon as the Barrack Department give it up. The first stone of the column will be laid on March 1., with masonic honours. I had the honour of having my design adopted at a public meeting held here on the 28th of October last. — *Philip Sambell, Jun. Truro, Jan.* 12. 1835.

Penzance Guildhall and Markets. — The corporation of the above town have decided that the design of Mr. H. J. Whitling, 27. New Broad Street, London, is to be adopted for the above buildings. They have also awarded to Mr. Inman, of Eaton Square, the sum of 20 guineas for the second best design; and to Mr. Harrison, of Anwell Terrace, the sum of 10 guineas for the third best design. — *W. J. S. London, Jan.* 24. 1835.

Norfolk. — *Norwich, Nov.* 1834. This letter will include a variety of matters. I have been reading Turnbull's *Treatise on Cast-Iron Beams*, &c., published by Weale, which appears to me simple, and easy to be reduced to practice. Cast-iron beams have generally yielded under a building on fire, though they may not have been fused: all experiments, therefore, with *cold* metal are inapplicable, particularly as iron will bend under heat. The irregularity in the quality of cast iron is a point to be attended to; the difference being as 3 to 5 between good and bad. In using iron for fireproof buildings, I would suggest that the beams should be tubular, so as to allow a current of cold air to pass through from the external face. I have an experiment in progress in one of my forges; but it has not been long enough in hand, to report. In constructing fireproof buildings, I should recommend as much of their support as possible to be derived from constructive brickwork, with as little ironwork as possible; and in cases of breastsummers I would advise bond of wrought iron, 3 in. by half an inch, to be inserted the whole length of the building, through the solids under the chamber windows: by this means houses might be kept together, even if one bay or arch failed. As they are now constructed they are like houses of cards: move one, move all. Shop fronts have no abutments; this tie would in some measure supply them.

I have been building a house on Morel-Vindé's plan, given in the *Encyc. of Arch.*, which is not much approved by our country people, but which is, of course, economical.

In a late journey to Ireland I could not forget your splendid cottages when compared with their miserable cabins. Your *Encyclopædia of Architecture* is, however, beginning to produce an effect; and I trust, in a few years, that the Irish cottagers will have as much reason as the English ones to bless your name.

I am at present laboriously engaged in repairing and remodelling my manufactory for the purpose of competition in this *iron* age, which, I trust, will account for my not writing oftener, or more at length. Having now got thus far, I will relate a tale. A country clergyman near ———, being about to erect a house on the glebe, applied to the resident mason to do the job, saying, " He should have great pleasure in encouraging so industrious an individual." Accordingly the mason procured plans from an architect, which were generally approved; but the estimate, being thought too high, was ordered to be cut down. In the mean time the clergyman called upon another architect, whose estimate was also thought too high. About the same time a third schemer solicited permission to show the clergyman some of *his* plans, and the clergyman accordingly looked them over, making observations as he went along. Three weeks after, this third man came again, with his plans amended; but the clergyman had now consulted a fourth, a builder, with whom he contracted for a house. A fortnight after the third party left, he applied for the amount of his bill, 25*l.*, which quite astounded the reverend gentleman, and he refused to pay it, as he did not consider that he had employed the third party at all. The demand, however, was followed up by an arrest; and, by some trick in the law, the venue was laid in London, in consequence of which a verdict was obtained against the reverend defendant for 80*l.* Thus the clergyman has lost his character with his parishioners;

a house is built, much inferior to that proposed by the country mason; and the clergyman, after having paid nearly 100*l.* for architects, has at last had no architect at all.—*M. D.*

Somersetshire. — The Bath Abbey. If any doubts existed of the effect likely to be produced by the addition of pinnacles to the towers and buttresses of the Bath Abbey, it is conceived that they must now be entirely removed. Their effect is at variance with the general character of the building, and they have destroyed the peculiar features by which it was distinguished. The massive and compact form of the tower is broken up by the multitude of points presented to the sight. The change has produced a new object essentially differing from that which was the great ornament of the city. The ancient ecclesiastical buildings of this country are remarkable, even where the design of the original architect is confessedly not perfected; and scientific architects and antiquarians, so far from being desirous to complete their original design, have considered it a mere deference to good taste to allow them to remain in the condition in which accident may have left them. Their imperfect state forms historical evidence, of which their perfection under the hands of a modern architect can in no way compensate for the destruction; but if questionable additions are made to an ancient structure, destructive of associations connected with its age, all respect for it as an ancient work of art is at an end. It then becomes in design a mere modern fabric, and opinions dependent on its antiquity are at once broken down. Every device which those possessing the power adopt is sanctioned as an experiment; and the moral influence of opinion, being no longer supported by the desire to preserve the building as a specimen of early art, ceases to check the changes which careless or ignorant persons may propose or make.

The additions to the Bath Abbey have entirely new-modelled its form. They are not in accordance with the original design; but are, on the contrary, opposed to it. The battlements of the turrets were panelled with light and well-finished work: these have been destroyed, and the pinnacles now rising from the tower rest upon plain and badly finished turreted crownwork. The necessity of destroying the original work it is impossible to explain; and the crownwork now substituted is as novel as the pinnacles themselves. So far from the design of the first architect of the Abbey having been respected or perfected, it has, in this instance, been manifestly and openly neglected. The square-faced battlements, which rose flush with the eastern front of the Abbey, were parts of the early building; they accorded with the remarkable and almost unique square window which lay between the buttresses they completed. Their destruction, and their replacement by octagonal towers, surmounted with pinnacles, is one of the most uncalled-for mutilations of the original design that has been committed, and is inharmonious, in character and appearance, with those parts of the building with which they are connected.

On the west front there projected from the side of its towers the rudiments of buttresses; they formed a portion of the courses of the original stonework, and were admirable evidence of the design of the original building. These have been chipped away! If the corporation architect could not devise buttresses to join them, he and his employers were certainly not privileged to do what they never can repair: as mere evidence only of what had been intended, the rudiments of these buttresses ought never to have been touched. Half the respect for ancient works is independent of their beauty, and no pretended improvement ought to interfere with it. It was generally believed that the day had passed for meddling with the external character of the great ecclesiastical monuments of the country. The changes which indiscreet and ill-informed persons had been in the habit of making in our churches was, it was hoped, checked by the study of the numerous works which have of late years issued from the press, in order to illustrate the history of an art cultivated with singular success in England. That one of the most splendid towers in the West of England, and situate in a county distinguished beyond all others for the towers of its ecclesiastical buildings, should be the means to dissipate the illusion, will be a constant cause of regret to those who have lived near it, and whose early opinions of it have been formed by the appearance it once presented.

The character of other cathedrals in England admits of pinnacles, and those various ornamental points which embellish them. In nearly every such case they form a part of the early building. If they are additions of a late period, they ought not to be regarded as models, for they cannot be considered of authority; but the extreme diversity of such structures presents the notion of their being any thing but any fixed models, either of ornament or general character. If the Bath Abbey differs from any other building, there cannot be any reason for now reducing it to the condition and form of any other building. It possesses its own peculiar character and its own peculiar features; to change or to disturb them, is to form a new building, and to substitute something for that which existed before, to the entire destruction of every association creating for it respect or admiration. (*Bath Guardian*, Nov. 1. 1834.)

ART. II. *Retrospective Criticism.*

PORTUGUESE Architects, &c. &c. (p. 87.). — I wish your correspondent, Mr. Evans, would communicate some particulars respecting some of the more interesting pieces of architecture to be met with in Lisbon and in other parts of Portugal. That there should be little now worthy of note, is by no means surprising, for the arts must be quite in a state of stagnation there; yet I can readily believe him when he says that there are "several things very interesting with reference to the buildings of past times." Even some slight notice of these could hardly fail to prove highly acceptable, there being scarcely a single work that gives any *artistical* account of more than one or two; among which happens to be the aqueduct of Alcantara, of which, indeed, descriptions are to be met with in many cyclopædias.

With the exception of the monastery at Batalha, we have hardly a single print of any Portuguese edifice: nothing by which to judge of their peculiarities of style; and let the taste displayed in them be what it may, several of them are no doubt highly curious, and so far interesting; although very far from being models for imitation.

While Italy has been travelled over by artists and draughtsmen again and again, and yet, it must be allowed, in nearly the same beaten track, the whole Spanish peninsula may be said to have been left untouched by them, save one or two particular points in Spain itself; and those have been principally looked at for examples of the Moorish style.

As a proof of the manner in which artists have confined themselves to one beaten track, it may be remarked, that those English artists, who have of late years visited Venice for the purpose of making views and sketches there, have nearly every one of them confined themselves to the Ducal Palace, the Piazzetta, and the Rialto. One would imagine there was a prohibition against their looking at, or, at least, against their delineating, any other subjects; although there are many quite as fine, and still more remarkable as specimens of style. What eyes must those have who can overlook such structures as the Palazzo Vendramin Calergi, the Scuola di San Marco, that of San Rocco, the Ca d'Oro, the Palazzo Pisani a San Polo, and numerous others?

That professed and professional architects should rather go to Italy, as the fountain-head of modern architecture, instead of visiting Spain and Portugal, for the sake of studying the Italian style at second hand, is not greatly to be wondered at; but that those with whom picturesque effect is as great a recommendation as more positive architectural merit, should so very seldom have directed their attention that quarter, may excite some astonishment.

Such being the case, it is not unlikely that, notwithstanding they are exceedingly scanty (no more, in fact, than brief notes), the following particulars, which I happened to meet with some time ago, relative to one or two modern Portuguese architects, may prove acceptable to such readers as have a taste for collecting similar materials. Some of the persons whose names are here mentioned may still be living.

Jose de Costa e Silva studied at Rome, where he obtained several prizes, and was admitted as a member at the Academy of St. Luke. He may be considered as the first in rank among the modern architects of Portugal; and he was professor of architecture both at Lisbon and Rio Janeiro. The theatre of San Carlo was erected after his designs, as were likewise the new mint (*O Thezouro Novo*), the church and hospital at Runa, and the conduit called *O Chafariz de Santa Anna.* Besides these works, he was employed for several years on the royal palace at Ajuda, where he contrived to correct many of the defects in the original plan. Silva died at Rio Janeiro.

Germanio Antonio Xaviero de Magalhaens was a pupil of Silva's. He was professor at the architectural school at Lisbon, and made the design for the beautiful cathedral of Guimeraes, which, however, is not yet completed, the progress of the work having been stopped by the troubles into which Portugal was thrown by the invasion of the French. The Crucifal or cross-form church at Torres is another important work by him; and he likewise made designs for many private palaces of the nobility.

Manoel Gaetano Guiao, who had previously superintended the works of the New Mint, and those for the restoration of the patriarchal church at Lisbon, was appointed to succeed Silva in carrying on the building of the palace at Ajuda. The towers of the Convent de l'Estrella were likewise designed by him.

Joaquim Marques has erected or designed several public structures at Lisbon.

Feliz Joao de Silva has had many opportunities of displaying his talents; and among the principal edifices erected by him may be mentioned the beautiful theatre of San Joao, the Thezouro Real, and As Joias, at Rio Janeiro; also the emperor's palace at Santa Cruz.

This is but an exceedingly meagre list, one of little more than names, and altogether deficient in dates. Yet, as the proverb-loving Sancho remarks, " half a loaf is better than no bread :" not, however, that I consider this half a loaf, or anything like that quantity; it is but a mere crum, and, withal, as an Irishman would say, a crum that is all crust. Still it may serve as a nucleus; a kind of beginning for additions to works resembling *Melizia's Lives of the Architects*, which work itself, by the by, stands greatly in need of something in the shape of a supplement or continuation. It contains hardly any names beyond the middle of the last century; and, although those of Robert Adam, James Wyatt, and a few others, have been added to the English translation by Mrs. Edward Cresy, materials for a third volume might now be collected. Some of the more recent foreign biographical publications would supply many notices for such a purpose; and a number of memoirs, some of them much fuller than the generality of the articles in Melizio, might be obtained from the journals, in which they now lie scattered and buried among other matters.

Longhena, to whom Venice is indebted for so many structures; Temanza, the architect of La Maddelina, also at Venice, and author of *Le Vite degli Architetti Veneti*, 2 vols. 4to (from which Mrs. Cresy might have borrowed some valuable additions); Selva, a pupil of Temanza's, architect of the Teatro della Fenice, and one of Cicognara's coadjutors in his splendid work on the buildings of Venice; the Marquis Cagnola; Ledoux, Leroy, Legrand, De Wailly, Louis; Quarenghi; Knobelsdorff, Langhaus, Catel, Weinbrenner; Ventura Rodriguez; Porden, Gordon, Harrison; these are some of the names which deserve to be recorded; and if professional men now living take no interest in, and do not care at all to encourage, works of this particular class of biography, how can they expect that their own names will be preserved after their decease?

Among all ranks of artists in this country there is, it is to be feared, too much of the mere trading spirit; an indifference to reputation, except so far as reputation tends to promote their interest. Neither do critics and tourists perform their parts with much greater zeal and application. In general, they are dreadfully *routinier;* or, if they seem qualified for their task, they merely touch the surface of their subject, and tantalise us by darting away from it. Forsyth himself is in a most provoking degree guilty of this offence: he has obtained a high name among later critics; and yet, when we come to examine and search into his book, we discover it to consist of little more than detached epigrammatic remarks, some of which, by the by, show more smartness than correct judgment. However, he rarely commits himself by assigning other than very one-sided reasons for the judgment he so decidedly pronounces. Almost all that he says of Palladio may be flatly contradicted by instances that make his observations appear like downright irony.

Hardly is it to be believed that any one who did not traverse Venice hoodwinked by Mrs. Starke and *guides* of her class, could pass by such an edifice as the Ca d'Oro, without bestowing more than ordinary attention on such a façade; and yet both Forsyth and Woods have done so. Mrs. Starke does not "guide" her readers either to this or any of a hundred other objects that at least ought to be pointed out, if they cannot be described. Her book does not even mention the Serra Palace, at Genoa, which Woods confesses that he somehow happened to miss! Yet, surely, he did not put himself under such a conductor as that lady.

At Cremona, again, Forsyth merely mentions the *Torrazzo*, and relates a common anecdote respecting it, cut out of the guide-books, although it is one of the most singular structures of the kind to be met with in all Italy. Woods escapes censure here, because he did not visit Cremona at all. Not venturing to trespass farther with remarks of this kind, I break them off, signing myself, as some may think, with very little right to such a name,— *Candidus. London, Feb.* 6. 1835.

J. R.'s Remarks on Mr. Sopwith's Work on Isometrical Perspective. (p. 45.)— I was much gratified by the favourable review of my work on Isometrical Drawing (Vol. I. p. 369.), and am also glad to perceive, that, with an impartiality which is alike creditable to you as an editor, and beneficial to your readers, your pages are open to critical opinions, however adverse to your own. The writer of the remarks (p. 45.) has, however, fallen into an error in stating that figs. 4, 5. 7, 8. 10, and 11. of plate xvii., and figs. 1. and 2. of plate xxiv. "are without any principle." All these figures are projected on a perfect geometrical principle; viz., that of parallel projection, which is the simplest and easiest of all modes of projection. Parallel projection exhibits one face of a cube geometrically, and this face may either be shown alone, as in common ground plans and elevations, or with one or two of the adjoining faces, as may best suit the object of the designer. This is well known to those who are conversant with projection; but, in order to explain it to the general reader, let it be supposed that the edges of a house were represented by a wire model, and this model were placed in the solar rays: the shadow of the wires falling on a plane perpendicular to the rays would exhibit the orthographical projection of the house; and the same shadow falling on a vertical plane parallel to the front of the house would exhibit the parallel projection of the house. In the latter case it is evident that the front of the house would be geometrically represented, and that more or less of one or two adjoining sides would be shown, according to the greater or less obliquity of the rays of light. Or, what is simpler still, let the wire model of a cube be held in the sunshine, so that its shadow may fall on a sheet of paper parallel to any two opposite surfaces of the cube; in which case eight of the boundary lines or edges of the cube would be parallel to the plane of projection. The writer of the retrospective criticism (p. 45.) is altogether mistaken when he states that "it is impossible for three faces of a cube to be shown by any projection whatever, if one face is represented geometrically, and the angles of that face are right angles; or, in other words, when the top and bottom horizontal lines of that face are parallel to the plane of projection." In the cases I have shown, the top and bottom horizontal lines are parallel to the plane of projection; one face is represented geometrically; and yet, so far is it from being impossible, under these circumstances, to exhibit three sides of a cube "on principle," it is not only possible, but is effected by the most obvious and simple principle connected with the science of geometry; viz., the representation of the shadow of an object on a plane parallel to one of its sides.

If geometrical wire models were made of the several objects represented in plates xvii. and xxiv., the shadow of each model could be made to fall line for line on the respective engravings; the same wire model which would cast a lineal shadow exactly similar to fig. 3. plate xvii. by orthographic projection, would cast its shadow so as to cover each line of figs. 4. and 5. by *parallel projection.* Will J. R. now point out what he considers "want of principle?" A critic who volunteers to instruct the "geometrical student" should first acquaint himself with the rudiments of the science he treats of; and be careful in censuring, for "want of principle," drawings which will remain a testimony of his own want of knowledge.

The geometrical student will find that the angles assumed in what I ventured, for the sake of distinction, to call verti-lateral and verti-horizontal drawings, are extremely convenient modes of parallel projection, and can be drawn with great ease and correctness by the triangular rulers, which J. R. also discards as useless. Parallel projection has, indeed, been strangely neglected in this kingdom. In France it has been extensively used; and I have before me a French work on stonecutting, containing numerous and very admirable examples of this useful mode of drawing.

J. R. complains that the purchaser of my work has to pay for much information not essential to the "student uninterested in plane geometry." To such students alone my book does not profess to be addressed. In my titlepage and advertisements I endeavoured, briefly and concisely, to explain the nature and objects of the work. It is addressed to the geologist, the miner, the landscape-gardener, the builder, the machinist, the civil engineer, and to the proprietors and managers of mining districts.

It professes to give demonstrations to the mathematical student, and information how to render isometrical drawing available to the several departments of mining, engineering, &c.; and I have the authority of one of the most accomplished and practised critics of the day, and of many eminent and competent judges, for believing that its demonstrations are *not intricate*, and its contents *not foreign* to the objects I have in view.

Capheaton House and garden, and Chesterholme Villa, are drawn isometrically. As regards the aerial tints, and the addition of a few shrubs and branches in the foreground, it is a matter of taste; and I think both plates are improved in appearance, by the addition of pictorial effect, and rendered more agreeable to the eye of the general observer.

Mr. Nicholson's contributions are plain and masterly elucidations of the subject of isometrical projection; and though not adapted for "unlettered" persons, their merits will be appreciated by every mathematical reader; nor do I consider that either his demonstrations, or the general merits of the work, will be lessened in public estimation by the censure of one who has given a hasty, and, I would add, a somewhat uncandid, judgment, on a subject which it is quite clear he does not understand. — *Thos. Sopwith. Newcastle upon Tyne, Jan.* 17. 1835.

Hostis's Remarks on Competition Plans. (p. 12.) — I can, from experience, testify to the truths stated by Hostis, in his "Remarks on Competition Plans;" but I am forced to dissent from him in one instance, namely, with regard to the practice of putting private marks, and referring to a sealed letter. In his observations on this practice, it struck me that he overlooked the distinction between the constructive architect and the architectural draughtsman: the latter may often be a mere amateur, whose knowledge may happen to be merely that of a good painter, and who may be wholly unable to execute the design he has made. Very many of these enter into competition, and, by the practice of private marks, cannot, of course, be distinguished by the judges. Now, as these judges may not always be of the description Hostis approves, the chances are that the choice may fall on the design of one who has no knowledge of constructive architecture, and, of course, is quite incompetent to execute the work. I have had experience enough to be satisfied that the scheme is not suited for universal adoption; and I consider that those who are to judge (but who may happen to know little of the subject) ought to have the security of well-known names as a guarantee for the able execution of the works. A choice could then be made without hesitation, nor need the skilful and deserving architect apprehend any thing but fair play. In Vol. I. p. 352. is an instance militating against the practice: if it takes an architect so many years of anxious labour before he gets fairly established, he has undoubtedly a right that his well-earned reputation and name should accompany his drawings. Mine, Sir, has been a career unaided by patronage, yet I am steadily progressing. — *Philip Sambell, Jun., Architect. Truro, Jan.* 12. 1835.

Art. III. *Queries and Answers.*

The Houses of the Britons were roomy buildings, of a round form, covered with a convex roof; and two edifices, exactly of this shape, were preserved, as monuments of antiquity, in the shire of Ross, within these two centuries and a half; being, as the contemporary relater of the fact expresses himself, *rotundâ figurâ, in formam campanæ facta.* The lord's mansion was, as our superior houses generally remained to the last century, all constructed of wood on a foundation of stone, was one ground story, and composed a large, oblong, and squarish court. A considerable portion of it was taken up by the apartments of such as were retained more immediately in the service of the seignior; and the rest, which was more particularly his own habitation, consisted of one great and several little rooms. In the great one was his armoury; the weapons of his fathers, the gifts of friends, and spoils of enemies, being disposed in order along the walls. And there he sat, with his children and guests about him, listening to the song and the harp of his bards or daughters, and drinking from cups of shells. (*Whitaker's History of Manchester*, vol. i. p. 275.) Can any of your Scotch readers inform me if the two edifices "in the shire of Ross," mentioned above, still exist, and, if they do, what state they are in? — *Juvenis. London, Jan.* 15. 1835.

Abattoirs at Islington.—In two or more Numbers of the *Architectural Magazine*, reference has been made to some "abattoirs" at Islington, as great improvements: will any of your readers be kind enough to inform me where I might see the same? — *Tyro. Wilmington Square, Oct.* 16. 1834.

German Fireplaces. — Can you or any of your readers give any information respecting the mode of constructing fireplaces, alluded to in the following paragraph: —"M. F. A. Bernhardt, a distinguished architect and civil engineer of Berlin, after many years' application, has found out a method of constructing fireplaces, so that they shall not emit smoke either in the chamber or in the street, at the same time that a current of warm air is diffused throughout the building, which in purity is equal to atmospheric air. By this invention, without altering the stoves as at present constructed, two thirds of the fuel now used will create the necessary degree of warmth. It has been applied with the most complete success in Prussia." (*New Monthly Mag.* for Dec. 1834, p. 531.) Is this M. Bernhardt the same who was in London a few years ago, and took out a patent for raising water to a great height at little expense, but was unsuccessful in carrying it into effect?—*Edward de Ridder, Architect, &c. East Street, Taunton, Dec.* 16. 1834.

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ORIGINAL COMMUNICATIONS.

Art. I. *On Consistency of Style as regards Windows, &c.* By W. H. Leeds, Esq.

There are certain faults so self-evident, so repugnant to the principles of correct taste, and so much at variance with architectural unity, eurhythmia, and character, that, were they not of frequent occurrence, it would seem little short of impertinence to urge any caution against them. Foremost among these is the practice of introducing columns or pilasters where the windows are merely naked apertures; and, consequently, being quite out of keeping with other decorations, they become so many blemishes in what is intended to be, at all events, showy. This is the more offensive, because it very rarely happens that columns are of indispensable necessity: they are, for the most part, matters of mere taste: to employ them, therefore, where no pains are bestowed to render the other parts in accordance with them, is merely to be expensively and studiously inconsistent. It is not only a common but a most vulgar notion, to suppose that, because columns and other members of ancient architecture are beautiful in themselves, they must be viewed with pleasure under all circumstances, and in any combination. Rather are we offended, when we perceive them so applied as to be rendered no better than so much tawdry finery patched upon the homeliest stuff, dragged in for no better purpose than to convert what might have been a respectable unsophisticated building, inoffensive in its plainness, into one that is positively displeasing. Whether the windows be left thus bare, merely to curtail expense as much as possible; or because there is not sufficient room to admit of there being both dressings to the apertures and columns between them, without producing confusion by crowding them together, the practice is equally indefensible. As regards the first of these cases, it is most mistaken and perverse economy, to aim at the most ambitious kind of architectural richness, if all the rest of the building cannot be made to be of a corresponding character and style; and thus to confess either poverty or niggardliness in the midst of unnecessary profusion. Should it, on the contrary, be owing to the other circumstance, it becomes tolerably clear that, so far from being at all desirable additions, columns should be rejected as quite unsuitable to the design; since they cannot be introduced without omitting the members essential to other parts, which correct taste requires should be more carefully finished in proportion to the decoration bestowed elsewhere. Eaton Square affords a glaring instance of this mongrel patchwork manner, for style it is impossible to call it. The Corinthian houses there have a vulgarly consequential air, that is as remote as can well be conceived from any thing dignified, classical, or chaste in architecture. Their plain sash fronts, with parasite pillars stuck up against them, may be compared to persons who have encumbered themselves with ill-assorted finery, which, when they have put it on, they know not how to wear; but, nevertheless, fancy that they must look "awfully grand," while, in fact, they only look pitiful. Among numerous other examples of the same kind that might be quoted, we here mention the front of the Post Office at Dublin, and the Commercial Buildings at Leeds, which are more lamentable instances than the houses in Eaton Square; because the latter are almost too paltry for notice, whereas something noble might have been made of the two other structures.

Akin to the preceding solecism is another which is by no means uncommon; namely, that of giving dressings to the windows of the principal floor, and leaving the others without any thing of the sort. The same design admits of various degrees of embellishment as regards windows, and the different shades of character capable of being thus produced; for harmony does not require every part to be in the same tone; yet the distinction arising from difference of degree is very opposite to that occasioned by adopting two contrary systems—namely, of ornament and nakedness. It is about as much in good taste as it would be to hang a row of unframed pictures above one in frames. In all such cases, the eye is far more offended by perceiving what is left undone, than gratified by what has been done. Many inconsistencies and blemishes of both kinds occur in Palladio's works, and in those of his school. Chiswick, so long esteemed a *chef d'œuvre* of elegance and taste, is not exempt from them; neither is Holkham. The principal front of the last-mentioned building is less complete and uniform in character than the other front; for there only the centre window in each of the wings has its proper dressings, while in those of the north front the windows of the wings are suitably decorated.

Besides these positive, and, therefore, tolerably obvious, faults, there is another prevalent error that calls for animadversion and correction, which is, that few architects bestow the pains they ought to do in making their windows, and such other parts as do not actually belong to the order itself, sufficiently of a piece with it. Not only do the different orders, but different examples of the same order, require some corresponding degree of difference in windows, doors, and other features. Thus, what would be sufficiently embellished where the Ilissus Ionic is employed, would be very inappropriate for the more florid Athenian examples of that order. Instead, however, of attending to this sort of unity, some of our modern architects use very nearly the same forms indiscriminately for such accessory features, let the order be what it may. With many it seems to be a rule to keep everything else as subordinate as possible to the order itself; whereas the real difficulty is, not how to give consequence to the latter, but how to give adequate effect and importance to what is necessarily so much less striking.

While it cannot be denied that many of the Italian architects have erred in consequence of adopting a quite contrary system, by which windows, &c., were made the principal features, and columns mere ornamental accessories in composition; such abuse can hardly be taken as a fair argument against a discreet employment of similar resources in design. Windows may be overloaded with ornament so as to become heavy; and that, too, without being rich. It is not a multiplicity of parts that can in itself produce richness; besides which, it is necessary there should be congruity, and that the predominating character of the order should be made to manifest itself here also. Of this we have a most successful example in the portico of St. Pancras Church. The doorcases and the doors themselves correspond with the style of the columns, and serve to extend and keep up their effect throughout. Precisely the same taste, although working upon very different forms, is discoverable in one as in the other. There are no jarring dissonances to interrupt our satisfaction. It must be confessed, however, that the entablature is not treated with equal happiness; for, as neither the pediment nor the frieze has any enrichment, more depth and ornament are required in the cornice, in order to balance the effect of the columns, and lessen in some degree that disparity now occasioned by the transition from copiousness to comparative meagreness of decoration. Nor is the deficiency here at all lessened by observing that the mouldings of the antæ caps are continued along the walls at the sides of the building, whereby the upper part of the elevation becomes comparatively richer than in front, where, since the entablature could receive no such increase, some addition, in the way of embellishment, ought to have been thrown in.

The doors within the portico of St. Martin's Church furnish an example altogether the reverse of the preceding. They are mean and insignificant as regards the proportions of the portico itself;

and, instead of the centre one being made more conspicuous and commanding than the other two, it appears depressed in comparison with them, because the spring of its arch is lower than their horizontal architraves. Neither can any thing well be imagined more uncouth in themselves, or less suitable to the order here employed, than the forms and details both of the doors and windows; and if an architect does not show any purity of taste or nobleness of ideas in parts where he is left more to himself, than in columns and entablatures, which are seldom other than avowed copies, whatever merit there may be in the latter when taken by themselves, he has but a sorry claim to commendation; since the praise bestowed amounts to no more than an acknowledgment, that the deformities he has added of his own do not altogether prevent our feeling the beauty of what he has only borrowed. The attention of architectural students is by far too exclusively directed to the orders alone; whereas, were more study bestowed upon windows and other parts, which certainly allow greater scope for inventive design, more varied and original effect of detail and ornament might be obtained than we generally meet with at present.

London, February, 1835.

ART. II. *Remarks on Forsyth's Architectural Opinions.*

By CANDIDUS.

THE tone of my last communication (p. 140.), that part of it at least which expressed some disapprobation of Forsyth, may probably have been too harsh; my censure too daring. Few, it must be admitted, care to insinuate anything against a work that has successfully passed its ordeal with the public; which has gone through several editions, and taken its rank as a standard book of the best authority, on the matters it treats of. Is it to be borne that an anonymous writer should fling his censure at an established reputation? So many will exclaim. To which my reply is, that the anonymousness on the one side, and the celebrity on the other, ought to be left entirely out of the question, as having nothing whatever to do with the merits of the argument either way. That celebrity, too, must be of most flimsy and cobweb texture, which cannot bear a little handling and examination; and is but ill calculated to endure the wear and tear that time occasions to reputation and celebrity in general. By no means do I intend to say that Forsyth's is not, in many respects, a very clever work, and an amusing one withal; yet I certainly do think that his critical opinions are to be received with great caution; otherwise, instead of instructing, they will be apt to mislead, and that, too, on many important points.

Unquestionably it is a convenient thing to be able to get at ready-made opinions, especially if smartly and pithily expressed. They save most folks a great trouble; and "Forsyth says so and so," silences all opposition. I myself, however, am one of those headstrong beings who are not satisfied without reasons, and reasons are what Forsyth rarely offers in support of what, consequently, may be termed his likings or dislikings. Of peremptory dicta he gives us enow, and many of them seem to be any thing rather than conclusions drawn from deliberate examination and philosophical criticism.

Merely to say all this would be unjust, unless supported by something like proof; I, therefore, proceed to notice a few, and only a few, of what I conceive to be hasty and erroneous decisions. He despatches his notice of the Ducal Palace at Venice in the following strain: — "It is in a style that may be arabesque, if you will, but it reverses the principles of all other architecture; for here the solid rests on the open; a wall of enormous mass rests on a slender fretwork of shafts, arches, and intersected circles. The very corners are cut to admit a thin spiral column; a barbarism which I saw imitated in several old palaces. A front thus bisected into thick and thin" (an odd expression, by the by), "such contrast of flat and fretted, can please only in perspective. It is not enough that the structure should be really durable, it should also appear so." This certainly looks plausible; and we must also admit that the writer brings forward more reasons than he is generally wont to do; yet, after all, it amounts to little more than telling us that the building does not accord with ordinary rules. The very contrast that he censures is the very quality that renders it so striking, not only to the eye, but to the imagination; and it surely was incumbent upon a philosophical critic to endeavour to account, if possible, for the singular fascination which charms us in a structure wherein there is so much that is utterly opposed to architectural doctrine. And that it has no little fascination for artists, at least, may be taken for granted, since they appear to have devoted themselves almost exclusively to this single edifice at Venice. Mr. Forsyth very plainly intimates that the building does not *appear* sufficiently strong, the lower part consisting of two tiers of open arches, above which arises a nearly solid mass. To a person unacquainted with the properties of the arch, such may *appear* to be the case; yet hardly so to any one who understands them, and whose judgment must, consequently, convince him that these arches are fully adequate to the purpose for which they are employed. It would be quite as correct to condemn the bridge of the Rialto, because its slender wide-spanned arch seems inadequate to support the mass of structure which encumbers the upper part of the bridge; or to argue that the pendants in the vaulted roof of Henry the Seventh's Chapel are monstrous deformities, because they *appear* as if they would fall down and crush us. Unquestionably the same arrangement of solids and voids as that in the Venetian edifice would be intolerable in one where the columns supported horizontal entablatures, although it should not pretend to approximate in the least to the Grecian style. Double the number of columns above to what there are below would, of itself, be a preposterous extravagance; while here it becomes rather a merit, by throwing more play, variety, and lightness into the *ensemble.* A piece of architecture may have several individual blemishes, and yet may be admirable as a whole; while another may have not a few individual beauties, and nevertheless be sadly deficient or insipid taken as a composition. As here introduced, it is the contrast of "*thick and thin,*" of "flat and fretted," that imparts such an undefinable charm, and so much expression and picturesque character, to the exterior of the Ducal Palace.

That at any rate I do not stand altogether alone in the opinion I entertain, is sufficiently apparent from what Legrand, himself an architect and a tolerably competent judge, says in regard to this building. I quote his own words, lest I should injure their force by attempting to translate them. "Son effet imposant prouve, contre l'autorité de ces règles asservissantes, qu'il y a plus d'un genre de beautés dans l'architecture, et qu'il suffit à homme de talent de prendre un parti, de le soutenir avec hardiesse, et de placer les détails toujours en harmonie avec les masses, pour faire éprouver d'agréables sensations à tous ceux qui savent apprécier les productions des arts. Quoi de plus contraire, en effet, à toutes les loix de l'architecture, et à ces grands raisonnements *qui prouvent tout à ceux qui veulent bien s'en contenter, et ne prouvent rien à qui n'en a pas besoin pour reconnâitre le beau partout où il se trouve,*—quoi, je dis, de plus contraire aux règles que des arcades percées dans toute l'étendue d'une façade, soutenant une frèle galerie en petites colonnes surmontées par des arcs aigus, qui découpent encore des rosaces, le tout couronné par un mur plein, seulement percé de sept grandes croisées, qui se trouvent tantôt à plomb d'une des arcades de bas, et tantôt à plomb de la colonne!"

Here, instead of being shocked at the deviation from rules, Legrand considers this building as affording a proof that there are beauties lying out of the usual track of the art; not, indeed, to be rashly and indiscriminately ventured upon, nor to be recommended as things that may safely be copied by any one, yet productive of great effect in the hands of a master.

Compared with the liberal and generous spirit of criticism manifested by Legrand, that of Forsyth too much resembles the plodding routine doctrine of a "five orders" man, who is entirely swayed by the letter of certain precepts, good in themselves, yet occasionally admitting exceptions under peculiar circumstances. Forsyth does not even feel (or, if he felt, he has not acknowledged it) the picturesque power, the forcible impression the building makes upon every beholder who is not bigoted by narrow prejudices. He seems not to have recognised in it any poetic quality, which, if architecture is at all worthy of being classed with the other fine arts, is assuredly the one that bestows on it its best founded claim to such rank.

If we may judge from what he has said in regard to chimneys, Forsyth was of opinion that they should not be suffered to appear externally. Speaking of those of some of the palaces at Venice, he contends that they " figure more conspicuously than so sordid an object should do, in imitation of obelisks, bells, and candelabra reversed." Now he does not object to them as being not sufficienly ornamental, nor exactly upon the grounds of bad taste being shown in their decoration and the forms selected for that purpose; but, forsooth, because they are rendered more conspicuous than is becoming so "*sordid*" an object. A stranger notion than this is not often to be met with. If chimneys are rendered elegant features (that they are indispensable ones, and must either be shown or masked, is evident enough) I should like to know how they can, with any propriety, be termed sordid objects? We have but to adopt this reasoning to its fullest extent, or even consistently, and we should forthwith banish chimney-pieces from our apartments, and leave only naked fireplaces; for why should we allow such " sordid objects," the backs of which are befouled with soot and blacks, to " figure so conspicuously " in elegantly furnished rooms? Most certainly the architects of Thornbury and East Basham, those rich specimens of our ancient *vernacular* domestic architecture, entertained very different ideas on this point from Mr. Forsyth; neither would Vanbrugh have acquiesced in his theory. It is true they did not deal in critical dogmas; nevertheless their judgment seems to have been quite as good as that of our modern critic and traveller. Diametrically opposite to Mr. Forsyth's, too, is the opinion of another traveller: — " In Italy," says Williams, " more variety and taste are occasionally displayed in the chimneys than in the buildings to which they belong. These chimneys are as peculiar and characteristic as palm trees in a classical climate, and impress us strongly with the idea of distance from home. In Calabria and other parts of Italy, and in the Ionian Islands, we were frequently struck with the consequence which the beauty of the chimneys imparted to the whole building." (*Travels in Greece and Italy.*) In fact, so far from attempting to screen chimneys, even where it can be done effectually, it would be more advisable to avail ourselves of them for ornament, and in order to break the formality of straight lines in a roof. Neither can it be doubted that such features may be made perfectly to accord with the rest, let the style of the building be what it may, since we have only to select for our purpose such forms and enrichments as the style itself naturally suggests.

Much might be said on the subject of Forsyth's predilection for Palladio, upon whom he bestows unqualified admiration, without even so much as hinting at a single defect. "His palaces here (at Vicenza)," he exclaims, "even those which remain unfinished, display a taste chastened by the study of ancient art. Their beauty originates in the design, and is never superinduced by ornament. Their elevations enchant you, not by their length and altitude, nor by the materials and sculpture, but by the consummate felicity of their proportions, by the harmonious distribution of solid and void, by that happy something between flat and prominent which charms both in front and profile; by that *maestria* which calls in columns, not to encumber but to support, and reproduces ancient beauty in combinations unknown to the ancients themselves." !

To me the whole of this effusion is so passing strange, so utterly irreconcilable with what is shown in the buildings themselves, that, were it possible to do so, I should conceive the writer to have been deliberately hoaxing his readers. Instead of displaying any thing like "a taste chastened by the study of ancient art," the Vicentine architect's designs, for the most part, exhibit quite the reverse. Columns stilted upon pedestals sometimes half the height of the columns themselves; broken entablatures; pulvinated friezes, and friezes perforated with naked openings for windows; windows cutting into architraves; enormous pediments; angular and curved pediments to windows, occasionally loaded with figures; attic windows sometimes wider than those below them, and generally too deep for the attic itself; decorated and plain windows in the same front; windows in pediments; ugly balusters; heavy mouldings, seldom enriched, although a deal of fantastic ornament is lavished elsewhere; preposterously wide intercolumns; meagre Ionic capitals and spindle shafts in that order; a centre window sometimes lower than others on the same floor, with a small square one above; and heavy sprawling festoons, as if to atone for the excessive plainness of the order itself:—these are some of Palladio's many vices, although Mr. Forsyth seems to have considered them beauties; and, if you take away these, you would frequently take away the whole design, and leave nothing but the bare wall and its apertures. Particularly unfortunate is he when he asserts that Palladio "calls in columns, not to encumber, but to support;" because we rarely find them introduced at all, except as mere decoration in the shape of half-columns stuck against the wall, and supporting nothing but lumps of the entablature projecting above them. How ironical, too, sounds the compliment, when he assures us that the beauty of his buildings " originates in the design, and is never superinduced by ornament !" Most assuredly little *beauty* is so superinduced; yet we often find that his ornament superinduces a great deal of deformity that might as well have been spared. In one example, of which my memory does not at the instant supply me with the name, Palladio has introduced a large order the height of two floors, except just at the angles, where he has substituted a small pilaster the height of the first floor, and has surmounted it by a preposterously large figure to fill up the remaining space; so that, instead of appearing, as they ought to do, more solid than the rest, the extremities of the front become absolutely " gimcrack" work, without the slightest degree of beauty to reconcile us to the impropriety itself.

I know very well that Algarotti extols the front of Palladio's own house at Vicenza as something quite superlative of its kind; and I also know that both Forsyth and Mr. Beckford express themselves quite ecstatically in regard to the Teatro Olimpico; yet, whatever weight their opinions may have with the public, they do not at all influence mine, but merely serve to convince me, that when people have a name they may talk a good deal of nonsense with perfect impunity. The front of the first-mentioned building is not at all in better, if, indeed, in so good, taste as those of some of the new London gin shops; and the other is about as ugly an imitation of an ancient theatre as could well be contrived. Even Robert Adam, who was by no means too pure and correct in his own designs, condemns it *in toto*, and censures the decorations of the " scene" as being a compilation of architectural monstrosities.

It is now high time to get rid of all the commonplace traditional cant about Palladio, and to look at his works, not through the telescope of his reputation, or any other falsifying medium, but with our own unprejudiced eyes. I will venture to affirm, that ninety persons out of a hundred judge of him entirely by rote and by book; and that, were they to see any of his buildings or designs, without knowing who was the architect, they would hardly discover a single beauty.

I shall not pursue Mr. Forsyth any farther, at least not at present, but allow the reader to ruminate upon the specimens of that writer's critical taste which I have here produced. Very far, however, am I from wishing to dogmatise, and thrust my opinions upon other people against their own conviction. Should any one, therefore, think it worth while to refute what I have said, he has but to come forward with his pen; nor will I be the last to exclaim, " Audi alteram partem."

London, Feb. 1835.

Art. III. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. James Anderson.

(*Continued from* p. 111.)

Gothic Architecture. — It has been already observed, that internal decoration, or the accommodation of private individuals, formed no part of the system of architecture invented by the Greeks; nor did the Romans, except in a very slight degree, attempt to supply that deficiency. They did, however, attempt it; and in this, as in every other attempt which they made toward improvement in matters of taste, they proceeded in an awkward and bungling manner. When individuals at Rome acquired great wealth by robbing the distant provinces, and other measures of a similar kind; toward that period, when luxury with such rapid strides paved the way for the downfall of the empire, large apartments were sometimes necessary for the accommodation of the numerous guests who were assembled together to participate in the sumptuous entertainments of the affluent. We cannot now correctly trace by what devices they were enabled gradually to increase the size of these apartments till they reached their fullest perfection in this respect; but, by the writings of Vitruvius and others, we are made perfectly acquainted with the form and internal decoration of those apartments which were reckoned to excel all others in elegance and grandeur, when the Roman empire had reached the zenith of its wealth and power. These apartments Vitruvius has accurately described and delineated under the denomination of *Egyptian halls* (probably because the first apartment of that kind had been erected by Mark Antony, in Egypt, for the sake of Cleopatra, of whom he was so deeply enamoured): but, wherever this kind of saloon was first built, or by whom invented, it is evidently nothing more than an awkward attempt to introduce the Grecian colonnade into the inside of an apartment, in which situation it loses all its original beauty and utility, and has the inconveniencies to which it was subjected without doors greatly augmented. Yet even this innovation, because of its novelty, and the superior size and splendour of such saloons, when compared with those which had been formerly in use, was applauded at the time as a most sublime improvement in the art, and must, of course, be accounted superlatively elegant by all the *cognoscenti* of our days. Even in our own time, and long after many models of internal structures, infinitely more perfect in their kind, had been invented and exhibited in every country of Europe, the infatuation of which I complain was so strong as to blindfold a man of the first eminence in this kingdom for taste and many other acquirements to such a degree, as to make him believe that no other mode of internal arrangement which had ever been devised could, in any degree, be compared with this in respect to elegance and grandeur. The Earl of Burlington, so well known for his taste and architectural acquirements, actually conceived the idea of building an assembly room at York on that model, and had influence enough to get it erected and finished to his own taste, according to the original design furnished by himself. The room, when finished, obtained, as was to be expected, the most unequivocal approbation of every *connoisseur*, and has been held out to the public by them ever since it was erected as an unexceptionable model of the chastest style of elegant Grecian architecture. The *people* praised it, as they must needs do, or be accounted destitute alike of knowledge and of taste; but every one in his heart thought it was a dull and heavy building. In course of time one person ventured to whisper to another in private his sentiments concerning it; and they soon found that others had felt as they had done. It was, however, tolerated for many years, more on account of the expense it had cost, and the difficulty of finding another in its stead, than from any other consideration. But at last the disgust to it became so universal and so strong, that it could be no longer endured; and, notwithstanding the expense that must in consequence be thus incurred, it was at last abandoned, as I have been assured, and another room erected in its stead that was thought to be much better suited to the purposes for which it had been originally intended.

What other improvements or alterations the Romans might have made in this respect, had the power of their empire been continued for a sufficient length of time, it is impossible to say. Their progress in the fine arts was here suddenly arrested by the irruption of those savage tribes from the north of Europe who conquered their distant provinces one after the other; and at length, after a struggle of many centuries, overturned the empire itself, and buried in one indiscriminate ruin the finest productions of art, together with the persons who were capable of executing them. It is impossible to trace the subsequent progress, in the domestic arts, of a barbarous people, who, for many ages, seemed to delight in nothing so much as in obliterating every mark of human civilisation, even to the art of writing itself, which could only, perhaps, have tended to record their own shame. Ignorance and impenetrable darkness universally prevailed; that kind of darkness which was only rendered visible by the accidental explosion of deeds of horror, which, like the smothered volcano, sometimes bursts forth, and exposes to view, for a moment, the devastation which it scatters to all around it.

Yet amidst this accumulated ruin the Christian religion survived. The sublime purity of its doctrines astonished these brutal ravagers to such a degree, as to produce a kind of veneration in their untutored minds that could scarcely be deemed short of idolatry itself. Every thing connected with that religion came to be by them accounted sacred. Its ministers thus acquired a power over the human mind that was unequalled at any former period of time; to preserve which, no art that a fertile imagination could suggest was omitted. Pompous processions of venerable men clothed in gorgeous robes, were not among the least imposing of the means adopted for that end; and superb temples adorned with every thing that could give an idea of supereminent wealth and power were, with the same view, considered as objects so very desirable, that they could not be purchased at too great a price. In this way architecture was the first of the fine arts that came to be studied among this ignorant people: but by what steps it was gradually revived, and in what manner it advanced in those dark ages, we may conjecture, but shall probably never be able clearly to discover; all we know with certainty is, that many churches of large dimensions were erected of *wood*, long before the era of any certain records in Europe; and that the frequent destruction of these churches by fire, during the uninterrupted warfare that was carried on between hostile tribes, produced a universal, and, we need not doubt, a most earnest desire to see if it were possible to get others reared of stone, that should be, in all respects, suitable to the high ideas of awful superiority which they wished to impress upon the minds of the people, concerning every thing that was connected with sacred things. As the clergy had in those days all the power, and consequently the command of all the wealth, of Europe, they were enabled to hold forth strong allurements to those who should best exert their talents for the purpose of carrying into effect these objects of their warmest wishes.

Strong allurements will never be long held out in vain to man for the purpose of exciting his powers, whether of body or of mind: nor could we perhaps produce a better illustration of this axiom than the instance before us affords. We know not the steps by which these artists raised themselves to such an exalted eminence above the general mass of ignorance that surrounded them; nor have we any other way of forming a judgment of their ultimate acquirements, than by an exact analysis of the works they have left behind. We are only free to conjecture that it was at this period, and for the purpose of perfecting themselves in this much cherished art, that some of the persons who had made the greatest progress in these studies associated themselves together for the purpose of reciprocally communicating the particulars which they had separately been able to acquire, that thus the general mass of knowledge might be the more speedily augmented. And as knowledge of this kind was, to each of these individuals, the undoubted power of acquiring wealth, it was natural for them to bind each other, under the most sacred ties they could invent, not to divulge to any one out of the society the secrets they should thus attain. In order that this kind of communication should not be interrupted, and that every one might be at liberty to pursue his studies by himself in the manner best suited to his talents, situation, and circumstances, but so as still to divulge to the society the whole of the discoveries he should make, care would be taken to appoint meetings at stated and convenient times, for the purpose of communicating all useful information to each other; and, as talents are not confined to one language or people, but are distributed by the Giver of all good with nearly an equal liberality among all nations; and as all people then worshipped the same God according to a ritual universally adopted, these men, whose sole object was to erect temples to the universal Father of all mankind, considering the whole of the human race as brethren, readily admitted every individual into their society who professed himself determined to apply his whole powers towards the perfecting of that great object which they had all so much at heart. Thus it happened, by one of those arrangements of nature which we sometimes call strange fatalities, that, in an age when anarchy universally prevailed, and inveterate warfare and bloody strife pervaded all nations, was formed an institution whose basis was universal kindness and brotherly love.

Such I conceive to have been the origin and primary object of that institution, the shadow of which has been transmitted even to our days (long after the soul and spirit of it had evaporated), under the name of the fraternity of *free-masons*, concerning the present state of which fraternity so much has been written of late.

Whatever may be the uses or the abuses of that fraternity in our day, we can scarcely form an idea of a plan that in the then state of the universe could have been so well calculated as that was for effecting the purpose intended. Books were not to be had, so that no information was to be derived from that source; and meetings in public for the purpose of freely discussing these subjects, as under the porticoes of Athens, while they would have alarmed the clergy, ever jealous of preserving the impression of their superior abilities among the people, would at the same time have rendered common to all, that knowledge of which they wished exclusively to make profit. Neither would it have been possible for any deep investigation to have been pursued so far as was necessary, in a public manner, among a multitude of men immersed in total ignorance. By the plan they adopted, each of these difficulties was clearly avoided: in consequence of the universal correspondence that was thus established among all nations, they concentrated within a narrow sphere the whole of the knowledge belonging to the fraternity, where, like the solar rays collected in the focus of a burning-glass, the effects were vivid and powerful. No knowledge that was thus once obtained could ever be lost; and while they were advancing with the ardour which energetic minds must ever feel while they have the prospect of effecting astonishing things, the tongues of the weaker brothers were tied up from babbling. Thus they went on for ages in a silent but uninterrupted progression, as takes place universally in the irresistible operations of nature; and the wonders of their power were only to be appreciated by its effects after it had been exerted.

We have undeniable evidence that the first exertions of these enterprising artists, like those of ancient Greece, were employed in constructing edifices of wood; but we are nearly as much in the dark respecting their first rude attempts, and the steps by which they gradually reached that degree of perfection they at last attained in this particular, as we are respecting most of the other discoveries in the useful arts that were made in the early periods of society. We only know for certain, that they attained at length the power of rearing spacious structures of vast extent, which afforded abundance of light and every other convenience that their rites of worship required; and exhibited a display of internal magnificence that left all the works of antiquity in that line at an amazing distance. What the particular devices were by which they found themselves enabled to effect these things, we can at best do no more than form some probable conjectures. But from the few specimens of wooden roofs that remain, which were constructed by artists during those dark ages which we very unjustly, in this respect at least, style barbarous, we shall be obliged to conclude that they must all have been constructed upon the soundest mathematical principles well understood, as applied to materials possessing the qualities and powers of those upon which they operated. The fine roof of Westminster Hall, and that still finer one of the Parliament House in Edinburgh, afford sufficient evidence of this. Whenever these shall be examined by a man who shall have made such a progress in that science which must have directed the hand of the artist who constructed them, as to enable him to appreciate their merits, he will find that the term *barbarous*, which he was prepared to adopt as applied to them, will be arrested before it reaches the lips, and that of *wonderful* forced out in its stead. Wonderful, indeed, such operations may be deemed, when they are compared with any thing else respecting the state of science or of arts, that occurred at the period of time when these roofs were constructed: nor will he be inclined to withdraw the word, when they shall be compared with any work that required the same kind of knowledge of the principles and power of the materials, that has been executed in wood by any of the artists in Britain, even after we have made all those improvements in science that constitute the pride and the boast of the present age.

When at last the concurring voices of all the people in every nation in Europe coincided in calling upon these artists to endeavour to erect structures in stone that should admit of every convenience, without losing any part of the elegance possessed by those to which the people had now, for so long a time, been habituated, and, of course, accustomed to admire, their attention would of necessity be strongly attracted to the subject; and the nature and properties of the substance they were about to work upon must have been an object of long and very deep investigation, before they could dare venture to form an idea of the possibility of effecting a thing so seemingly beyond the reach of any human powers. That they investigated this subject upon the soundest principles of mathematics, we can have no doubt; not only from this consideration, that a set of men, who had been governed in all their operations upon wood by mathematical principles, would naturally apply the same principles in directing them how to employ any other materials for the purpose of erecting similar structures; but still more must we be convinced of this truth, from a careful analysis of the structures erected by these men, which still subsist in our day; and which, we shall find, when thus analysed, exhibit the most undeniable proofs of such a consummate degree of knowledge of those principles that were necessary to give stability to their works in every situation, as gave the artists a power to perform whatever they wished to effect, by devices of the simplest kind that the nature of the case could possibly admit. It is in this deep knowledge of the scientific principles of masonry, that we are to seek for the origin of those forms which peculiarly characterise that mode of building which has obtained the name of Gothic, and not in the capricious whims of a disordered imagination; nor in those fantastical analogies which it has been but too much the fashion among ignorant men, who have pretended to decide on this subject, to hold up to public view with scorn and derision, as the only circumstances which had influenced the conduct of these much injured, though never enough to be admired, nameless, humble, and self-taught artists.

When these men came to reflect seriously upon the subject, the first circumstance that must present itself to them would be, the impossibility of forming a roof of stone of such ample dimensions as those which they had acquired the power of constructing of wood. If they should attempt to support it by means of pillars of stone after the manner that had been practised in those few models of Grecian or of Roman architecture which had been preserved till their time, they would at the first glance perceive, that the area would have been so much crowded with massive pillars as to have buried the centre in the most dismal gloom, and not to have admitted of a successful display of that splendour at which they aimed: nor could space have been obtained for the exhibition of that grandeur which constituted such a striking part of the rites of the church. Every idea of that mode of construction must have been, upon these considerations, entirely laid aside from the moment it obtained a serious investigation, as being in all respects incapable of answering the purpose intended.

The first idea that, under these circumstances, would present itself to the mind of the artists as an improvement, if they could devise a method of doing it, would be, that of diminishing the number of the pillars required for supporting the roof; but how this could be effected, must have appeared, to men who had never practised the art of building in stone, a matter of the most serious difficulty. In studying the remains of those few ancient buildings of stone which had withstood the ravages of time, and which, from the moment our artists had conceived the idea of attempting to rear structures of similar materials, must have been examined with the most minute degree of attention, it would not be long before they would remark, that there was a possibility of closing an aperture in a wall by means of an arch thrown over it, although the distance between the two sides of it was too great to admit of a single stone being found that could reach over it. It is but going one step farther to say, might it not be possible to connect the columns together by means of arches, instead of the solid architrave of the Greeks? To solve this question, they must study, in some measure, the nature of an arch, and the principles upon which its stability depends. They had now got possession of the clue that was to guide them through the intricate labyrinth in which they had been wandering so long, without a glimmering of hope that they could ever get out of it.

They would thus be able, in a short time, to perceive, that if a row of arches of the same size and form were to be made at moderate distances from each other in the same wall, the solid pillars from which these arches sprang, by being loaded with an equal weight on each side, would thus have a tendency to be pressed directly downwards only, and not to be pushed in the smallest degree to one side or the other; so that, if the stones of which these pillars consisted were true and fairly bedded, there could be little danger that such pillars would be deranged by the weight that was laid upon them. Here, then, was one great step gained, which would encourage them to proceed with their enquiries.

If a row of pillars connected by arches can be thus built in one direction, why may not a wall which intersects this wall (now consisting of arches and pillars) at right angles be constructed on the same principle as the former? It is evident, that this last wall cannot be affected by the first named in the slightest degree, except at the precise point of intersection; and if that point of intersection be one of the pillars, and the thickness of the wall be the same as the width of the pillar, this intersection can have no other effect upon this square pillar than merely to add double the weight that it had before to support; for it will be now equally balanced on both sides, from south to north, as it formerly was from east to west, so that it must stand equally firm as before, if the materials of which it consists be so firm as not to be in danger of being crushed together by the pressure.

Here, then, we have a distinct view of the steps of that process by which our artists acquired the original idea of placing their columns at a much greater distance from each other than the artists of Greece or Rome could ever accomplish, and of joining them together by means of arches for supporting the roof. It is this particular that constitutes the characteristic feature of the Gothic architecture, and discriminates it from that of Greece and Rome: nor shall we find any difficulty in tracing, in the future numbers of our work, with equal precision, the origin and uses of all those lesser devices which were afterwards adopted as natural and necessary modifications of this grand principle, as it came to be applied to the particular purposes it became necessary to effect, which have been so much misunderstood, and so often made the butt of a senseless ridicule, by ignorant witlings in modern times.

ART. IV. *A Design for a Turnpike Lodge, with Remarks.*

By TYRO.

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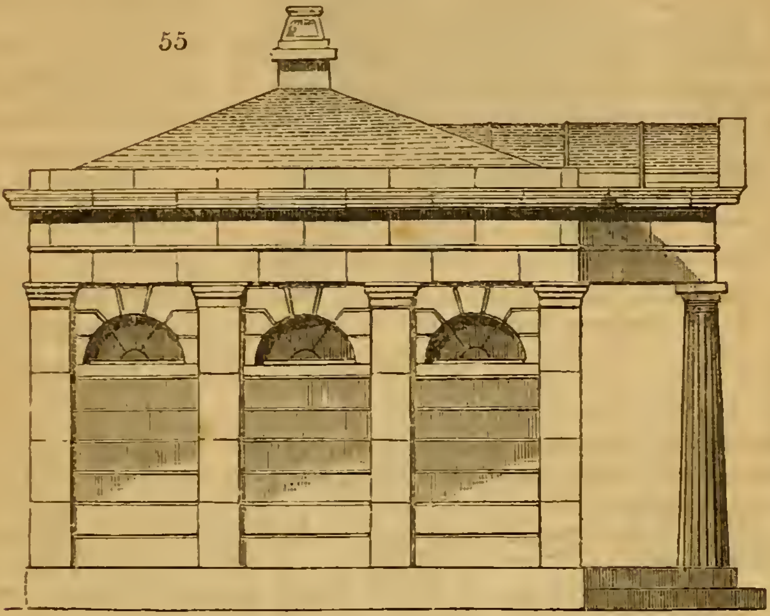

Geometrical Elevation of the Side Front.

AMONG the various subjects enumerated intended to be treated on in the *Architectural Magazine*, I find that of Road-making. Of late years, great attention has been paid to the formation and improvement of our roads, and, I have no doubt, before long, if that attention be continued, we shall have roads to be proud of. The only means we have of keeping them in good

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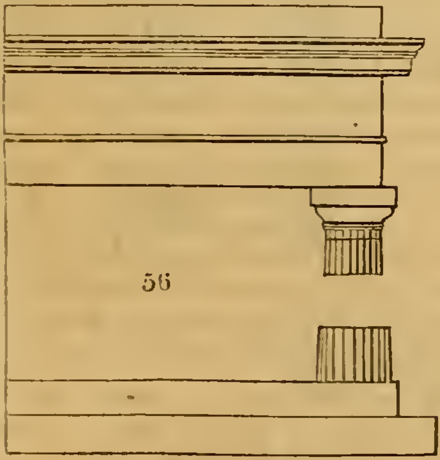

Details of the Portico.

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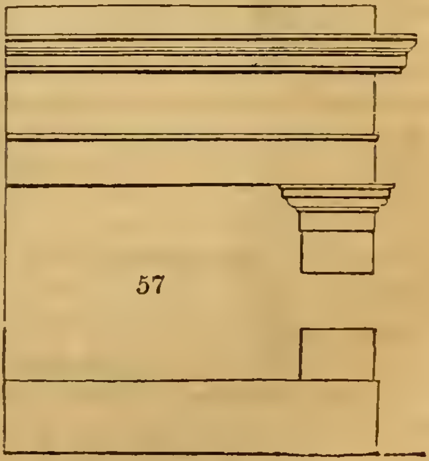

Details of the Side Front.

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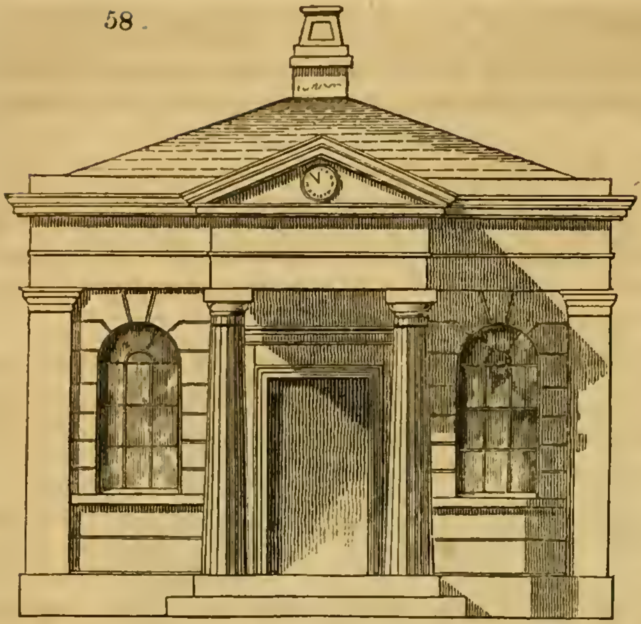

Elevation of the Front.

condition, is by levying a tax upon the various conveyances which traverse them, and the method of raising this tax is, as we all know, that of placing at certain distances collectors, and erecting houses to shelter them from the inclemency of the weather.

I think I may be allowed to state, that generally speaking, these houses form no ornament to the road, and that they are often very unsightly. For instance: f you happen to be travelling a little distance out of town, you may observe with pleasure the regularity of the road, with a neat terrace on one side, and lofty houses on the other; but proceeding a little farther, your eye will alight upon a wooden box with two wings; the one containing a smoky chimney, and the other a privy. Now, if there is no doing without turnpikes and turnpike lodges, why not erect something in character with

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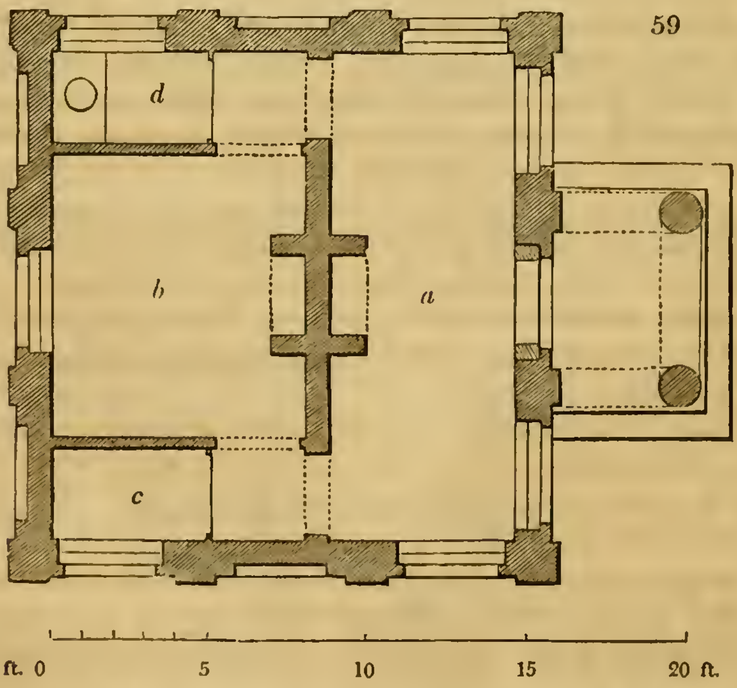


the houses on each side, and not such eyesores as at present disfigure the road? In order to accomplish this, I have endeavoured to set an example through your Magazine, by subjoining a plan, elevations, and details, which, in my opinion, would be better adapted to the purpose, and would be of very little more expense.

Fig. 59. is a plan for a turnpike house or lodge. The room *a* is 15 ft. 6 in. by 6 ft.; one side to be used for depositing the money and keeping the tickets; and on the other side there being room for a chair or two, for the accommodation of any person that might be waiting for the stages.

The room *b* is intended, in the daytime, for the collector to eat his meals in, and at night as a bedroom, having a turn up bedstead; *c* is a closet; *d*, a watercloset.

Wilmington Square, Sept. 2. 1834.

ART. V. *An Account of the Chain Bridge erected at the Hyde, Ingatestone, Essex, the Seat of John Disney, Esq., F.R.S. H.S. Z.S., &c.* Communicated by Mr. DISNEY.

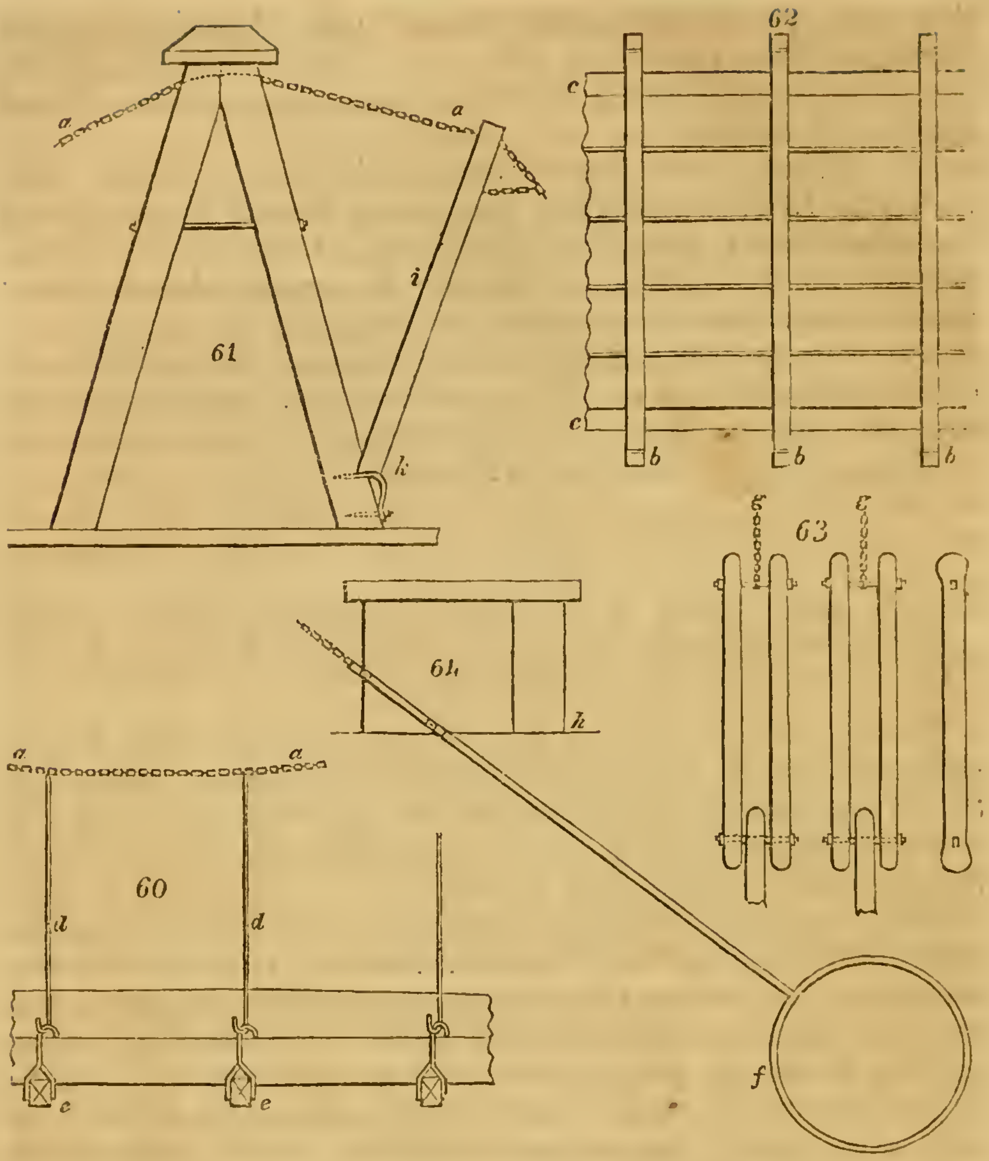
HAVING proposed to myself the erection of a bridge over a piece of water in my private grounds, it occurred to me that one of suspension might be constructed upon common chain, if it were sufficiently strong, and would, at the same time, be much cheaper than either in wood or brick.

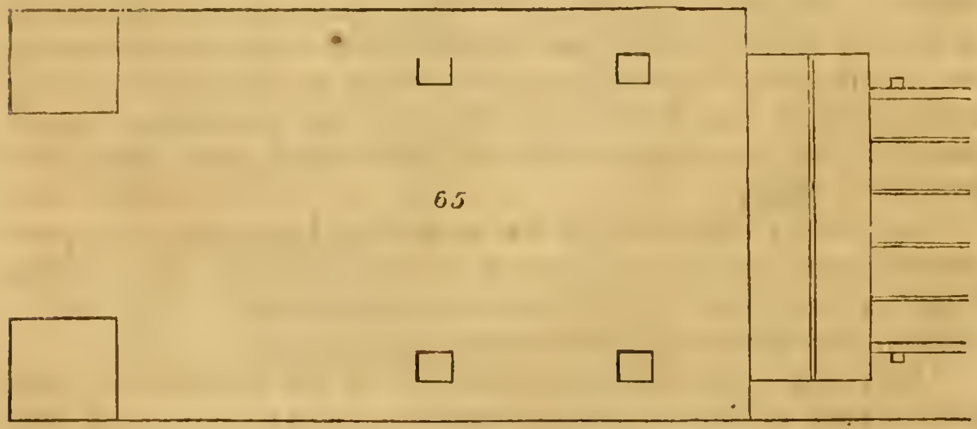
After consulting with some persons whose practical knowledge of chains was much greater than my own, and having calculated, as well as I was able, the probable weight of the proposed joists, flooring, and side pieces, I procured a proper quantity fit for my purpose, ready made, from one of the principal dealers in London. The breadth of the water is fifty feet, and, consequently, the suspended flooring is the same, and the width of the walk is four feet. By as accurate a computation as I could make, I found the weight would be from 3 4ths of a ton to a whole ton, making the flooring of inch-deal boards, and the other woodwork and parts of the dimensions stated below. The suspending wires do not weigh more than two hundred weight.

The chain I have used, I was told, would support, in a perpendicular direction, singly, one ton and a half. The bridge complete is geometrically represented by *fig.* 66. The dimensions of the different parts are as follows: —

The main chains (*a*, *fig.* 60., which is an elevation of the centre part of the bridge) weigh 3 lb. to the foot, and are 75 ft. long each from the places where they join the anchorage.

The joists (*b*, *fig.* 62), are of heart of oak, 4 ft. 6 in. long,





and in substance three inches by two, bearing the weight edgewise. In the under side of these, two inches from each end, is a notch for the purpose of receiving a stirrup (in order to keep it in its place), in which they rest. These joists are fifteen inches apart.

The side pieces are at *c*, *fig.* 62., which exhibits the soffit of the bridge. — The joists being placed in their stirrups, there are laid over them, and just within them, four pieces of deal, 3 in. by 4½ in. in substance, and 12 ft. long each, having notches cut in the lower edges, at equal distances of 15 in. to receive the joist, which are made fast to them by a screw passing downward into the joist: these I have called side pieces, and their use is to keep the joists in their places, and steady.

The suspension wires (*d*, *fig.* 60.). — The chains being properly placed and secured, iron wires, 3 8ths of an inch in diameter, of proper length, having a hook turned at each end, after the manner of S hooks, were put on: one end of each wire is hung upon a link of the chain, and on the other is hung the stirrup.

The stirrup (*e*, *fig.* 60.) is made of the same-sized wire, with a loop or hook at the top, and receives the end of the joist on its flat side, falling into the notch described before.

The anchors (*f*, *fig.* 64.), if they may be so called, are in fact old garden-roller stones, round each of which is a strong bar of iron, 17 in. in diameter, and in substance 1 in. square, welded again to itself, so as to form a ring, in which the stone lies horizontally. This bar is brought out at the length of four or five feet, and turned into a very strong hook at the end; the stone with the hoops (for there are two at each stone, being one for each chain) are buried in the ground 3 ft. to 4 ft. deep, and rammed in, presenting above ground a portion of the iron bar and the hook. In this figure *h* is the ground line.

The chains (*g*, *fig.* 63.) are fastened to the anchorage by means of plates of iron, somewhat similar to the links of the chains in the large suspension bridges. Two parallel plates, of similar shapes and equal lengths, with a hole at the end of each, are placed one on one side and one on the other of the anchor hook, and a bolt as large as the hook will carry, passed through the three, which are screwed close together by a nut. A similar bolt is run through the other ends of the parallel plates, and, the last link of the chain being placed between them, they are screwed together in the same manner. The plates are 10 in. long, and 1 in. by 5 8ths of an inch in substance.

Fig. 65. is a plan of the bridge.

There are two chains on each side of the bridge, and the joists are hung alternately, each on two chains only. Thus, the first joist hangs on the outside chain on the left hand, and the inside chain on the right hand; the next, on the inside chain on the left hand, and on the outside chain on the right hand; the third hangs as the first, the fourth as the second, and so on; so

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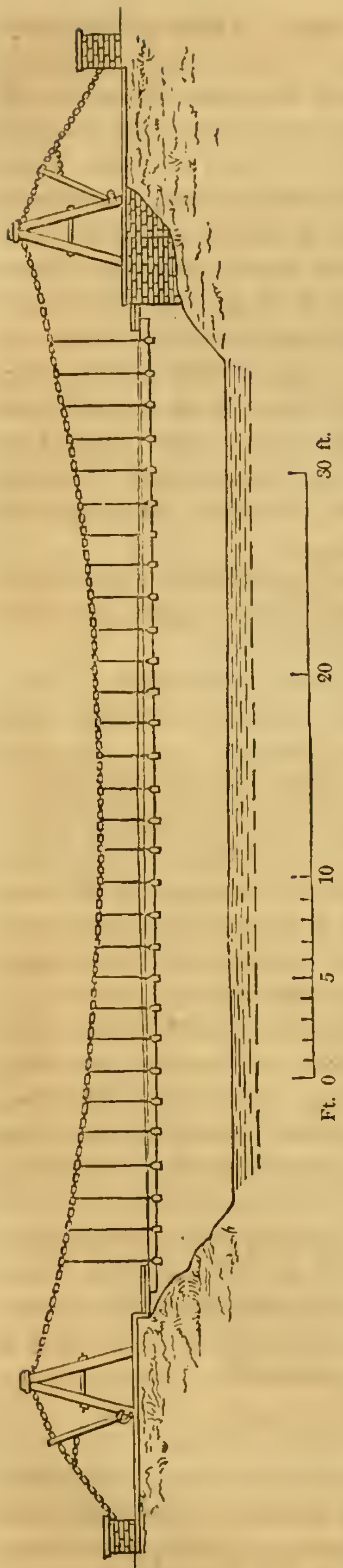

that each chain supports half the weight of one side of the bridge, and, consequently, one fourth of the whole. The piers (*fig.* 61.), over which the chains pass, are of wood, heart of oak, 5 in. by 6 in. in substance, and set into the ground 2½ ft. They are put with their tops leaning together, at such an angle as to make the base of the triangle half its perpendicular height; they are braced together under ground, and bolted together at 3½ ft. from the surface of the land, and also, again, immediately below where they meet. A movable stone cap protects them and the groove in which the chains lie, from wet.

They have been now in use nearly two years, and have not varied from their original position the eighth part of an inch, as appears from a mark with a chisel, made when they were first put up.

When the bridge was first erected, the chains were brought in a *direct line* from the top of the piers to the anchor-hooks. But, then, the angles formed by the descending chains on each side of the piers, with the perpendicular axis of the triangle, were not equal, and the pressure was necessarily thrown more upon the inner post than the other. To have corrected this by lengthening the chains would have made them inconveniently long. I therefore took the bridge off the chains, and placed an oaken stay (*i*, *fig.* 61.), resting its lower end on a strong iron bracket (*k*, *fig.* 61.), at the foot of the outer post, and put it in a direction parallel to the inner post, making its length just sufficient to raise the chain to an angle, externally, equal to the inner one. At the same time, finding that the vibration of the bridge was very considerable, owing to the length of the suspended flooring (which is exactly fifty feet), and its great lightness, I put an additional stay on each side, in one piece, 48 ft. long, over the other four side pieces, and bolted them together; which has had the effect of stiffening it, without adding much to its weight, which I conjecture does not now much exceed a ton.

The beauty of the bridge is great; and though not absolutely necessary, being over a piece of water in a private pleasure-ground, it is very useful and efficient. The whole cost of materials and workmanship did but little exceed 30*l.* This account I have put together, which, it is feared, is much wanting in technical or scientific accuracy, to show how easily and cheaply foot bridges of this description may be erected; and of materials always to be had. If the posts which support the chains, the most perishable of all the parts, should in ten or fifteen years decay, so as to endanger the fabric, 10*l.* in money and three days in time would set it up again.

Upon a rough estimate, a wooden bridge of the same span would have cost from 80*l.* to 100*l.* and a high arch probably from 160*l.* to 200*l.*

ART. VI. *On the Means adopted for securing certain decayed Flooring and Partitions at Apothecaries' Hall, Dublin; and a Description of the Metallic Trusses used.* By ROBERT MALLET, Esq.

I AM induced to send you the following account of the removal of certain decayed flooring, and the method of securing what remained, at Apothecaries' Hall in this city (Dublin), from feeling that, although the work was not one of great magnitude, yet it embraced many circumstances in its detail eminently instructive, and fitted to draw forth the resources of the engineer; besides their being such as may be available in other cases under similar circumstances. Before entering into any detail of the operations, it will be necessary briefly to describe the field of work.

The Apothecaries' Hall at Dublin is a large brick building, constructed about the year 1791. It stands in line with other houses: those immediately adjoining it on either side were built previously to its erection; and, although a large and a public structure, it was what the workmen call "scamped" in the execution. It is four lofty stories in height, and has about 50 ft. of frontage, by 60 ft. in depth.

The floor on the street level is almost entirely occupied by the warehouse, which, together with the house-hall, and a small office, occupies the whole area of the building. The street floor is supported by cast-iron columns; antique pieces of work, in the form of octagons, of 7 in. in diameter, and cast solid.

From over these other columns run up, which support the surrounding gallery and the floor of the board room; which, together with the staircase and some minor rooms, form the second story from the street. Immediately above this is a bedroom floor, with various doors and separating partitions; and then the roof. I have before said that the adjoining houses were built before the one now in question; and all the advantages that could be were taken of them by the builders, to save their pockets; accordingly, there is literally not a wall in the Apothecaries' Hall but the front and rear ones, and a small portion of staircase that properly belongs to it. Both ends are formed merely by the party walls of the adjoining houses; and four very heavy stacks of chimneys are run up against these walls, two at each end, without any bond or connection whatever with them. All the floors, also, rest the greater part of their weight upon these end walls. Many of the beams run into the piers of the chimneys; and all the divisions, throughout the whole building, are formed by partitions, merely resting on the floors, without the slightest attention to the keeping of one partition over another; and on one great central partition of the upper story rests the roof; so that the whole is one vast cage, possessing scarcely any stability.

The roof is formed in two equal spans, the ridges running parallel to the street; and the abutting feet of the rafters in the middle valley, resting on the partition above alluded to; so that, in addition to their own weight, the floors support one half of the weight of the roof, besides that of the numerous partitions above alluded to.

The upper floor, that immediately over the board room, was the scene of subsequent operation. It had sunk in the centre about 8½ in.; the roof had gone down along with it; and thence acquiring a new direction, had forced out the front and rear walls, for one story down from the parapet, about 3 in. The main beam of the floor, which went into the chimney piers, had acted as a lever, and detached the chimney stacks from the end walls against which they were built; while much of the board room ceiling had fallen down.

The Incorporated Body of Apothecaries consulted several builders, &c., upon the subject, who all recommended the taking down of the entire edifice, and rebuilding it. This there were many objections to; when, at length, the board, having heard of our firm [John and Robert Mallet, Dublin] having constructed some very large metallic truss-beams for Sir Charles Coote of Ballyfin, conceived that possibly something of the sort might be applicable here, and accordingly consulted us. After having examined the circumstances of the case, we undertook to restore the floor to its original level, and the roof along with it, and also the walls to their perpendicularity, if found advisable, without taking down or disturbing any part of the then existing edifice.

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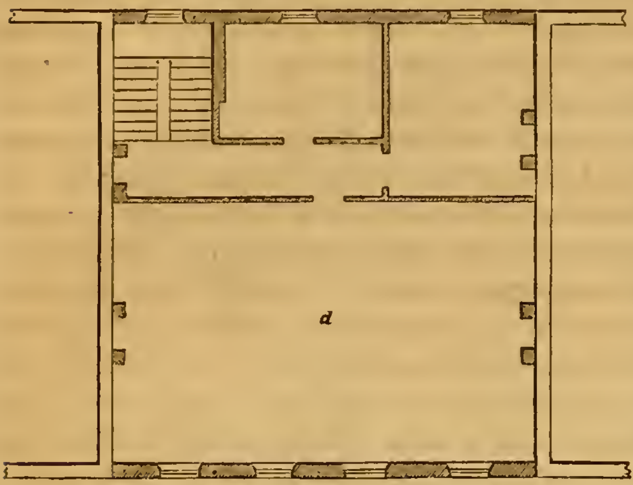

Before proceeding to describe exactly the condition of the defective floor, &c., or the operations performed on it, a sketch both of it and of the story immediately beneath it, viz., the board room floor, will be necessary, in order to give a clear idea of both.

Fig. 67. represents the board room floor, in which *d*, the board room, is 48 ft. by 30 ft. *Fig*. 68. is the bed-room floor, which had sunk 8½ in.

In these figures the walls properly belonging to the Apothecaries' Hall, and the partitions, are shaded darker than the walls of the adjoining houses.

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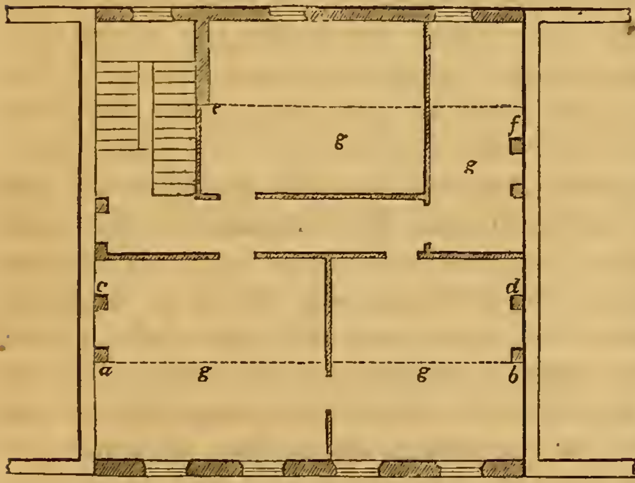

All the stories have compound flooring on the upper floor (that which had sunk); and a main trussed girder ran from *a* to *b* (*fig*. 68.); each end being inserted in the pier of a chimney. Another ran under the main partition, from *c* to *d*, which last partition was also trussed, and was that on which the roof rested. A third girder ran, in the line *e f*, from the staircase wall to the end party wall: this latter, being comparatively short, stood fast, but both the others had gone down, attended with the appearances before described.

On stripping the flooring and partitions, neither the beam *a b* nor that under the partition appeared externally decayed; but, upon boring, the former was found to have only an external shell, of about 1½ in. thick, sound all round it, while the latter was but very partially decayed in a few places. The appearances of these beams, when removed and opened, were so very instructive, that I think it worth while minutely to describe them.

The beams were both of red pine apparently, but somewhat different in appearance from the timber now imported under that name. They were 18 in. square each, and had been trussed by splitting them in halves from end to end, and inserting in each two pieces of oak inclined to and abutting against each other, both halves being then firmly bolted together. I should mention that there was also an iron key-block, drawn down by a bolt, between the abutting ends of the oak, as in *fig.* 69. where *a a* are the pieces of oak.

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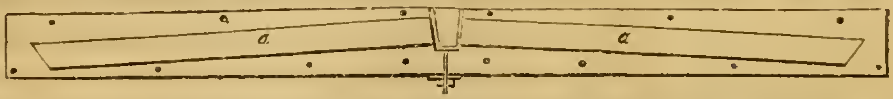

It is to be remembered that one of these beams had its ends inserted in the party walls, and the other into the chimney piers: the former was comparatively sound, and the latter utterly decayed.

On opening the rotten beam after its removal, it was found to have become a mere shell, containing the pine and oak, both wholly decayed; and the space between them completely filled up by the most florid specimens of the dry-rot fungus, which had even ramified into the saw rent, between the two halves of the pine beams. Both the oak and the pine were quite dry, but the former looked as if it had been inserted into the latter wet.

The ends of this beam occupied the full breadth of the chimney pier on each side, so that they rested on the pier below, and then the upper pier was built upon them. One side of the beam was so close to the grate at each end as to be quite hot when first stripped; and it was actually charred in one place. Hence, we have a ready solution for the rotting of one beam and the soundness of the other; the longitudinal cut forming a fine conductor for the heated air at first, and for the fungus afterwards, and thus it was found that the decay was least in the centre of the beam where farthest from the sources of heat.

In the other beam the rot was usually in the neighbourhood of the bolts. Now, here are many points worth attention: first, we see the importance of keeping timbers as far from sources of artificial heat as possible, independently of all danger from ignition; secondly, we find the decay spreading from the inside, which would seem to indicate some specific action between the oak and the pine, engendering the fungus, which adhered indiscriminately to both; and, lastly, we see that longitudinal saw-cuts, wherever it is possible, should be avoided, as forming conductors for decay.

The floor which these beams supported was of that kind called naked flooring, consisting of the girders before described, binding joists, common and ceiling joists, and flooring boards; all of which, with the foregoing exceptions, were sound. To remove the girder, forming part of the partition on which the roof rested, seemed unnecessary; but it was determined to take away the other one, viz., that at *a b*, *fig.* 68. Accordingly, all the ceiling was broached down; the floor on either side of the girder *a b* was shored up from the very bottom, and also under the main partitions. Each chimney pier was needled up, and removed from above the ends of the rotten girder, as shown in *figs.* 70. and 71. In *fig.* 70, *h* is the girder.

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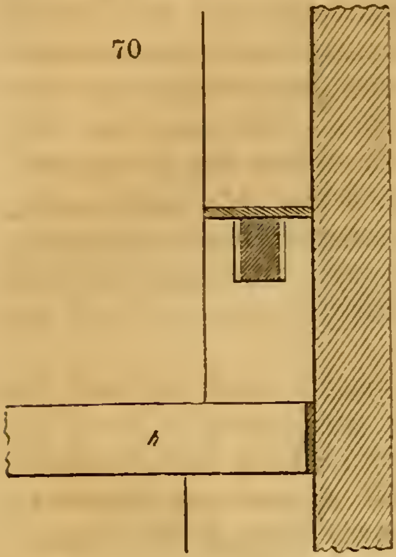

A hole, 9 in. by 7 in., was cut very carefully through the pier *i* (*fig.* 71.), and a similar one through the other pier: through both a piece of oak was put, bearing on the lower side of the pier *i*, upon a piece of thick boiler plate bedded in Roman cement, and on the upper side against a similar plate, under the piers to be removed. It was then wedged up from an offset in the front wall (*k*), below the level of the leaning part; and, finally, the piers at each end of the girder were removed.

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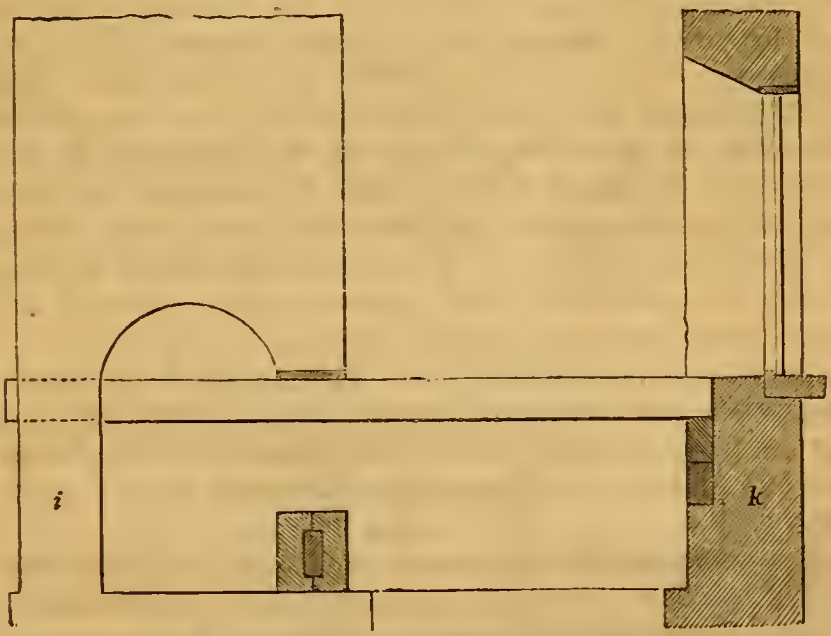

All the binding joists were next cut through, within about 3 in. of where they were notched into the sides of the girder; and, finally, the girder itself was sawn into four lengths, and removed piecemeal. The next operation was to rebuild the chimney piers that had been removed, upon two boxes or cases of cast iron, into which the ends of the new girder might be inserted, without being touched or borne upon by the masonry, while the latter should be sustained by the castings solely: this was done with Roman cement. As each chimney had parted off about $1\frac{1}{2}$ in. from the party wall against which the chimneys had been built, a bolt, 1 in. diameter, with a wide washer, was passed through both, previously to the removal of the needle, and the space between was filled in with concrete, the dust being previously blown out, and the sides well wet.

The new girder was meanwhile prepared; and as, from the very unstable state of the whole house, the getting it in of one piece would have been hazardous, it was built up in four pieces, *in situ*, with such a wrought-iron truss applied as should be sufficient to bring up the floor to a level, when the junction of the binding joists should be made good with it.

The following was the mode of trussing employed: —

Fig. 72. is a general side view of a girder trussed in the way I am about to describe, built in four pieces and seen on the top side, as in *fig.* 73.: the longer pieces are 35 ft., and the shorter pieces 15 ft. in length. Each end of the beam is embraced by a cast-iron shoe (*m*, *fig.* 72.), seen more at large in *figs.* 74. and 75.: through the upper angle of this shoe a cylindrical hole is cast, into which a cross $2\frac{3}{4}$ in. bolt (*a*, in *fig.* 75.) is inserted, projecting sufficiently on each side to be embraced by the eyes, at the ends of the truss or bars (which are each $1\frac{1}{2}$ in. round) on both sides. In *fig.* 74., *c* shows

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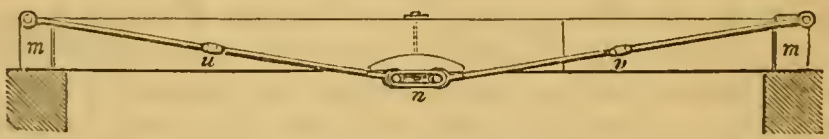

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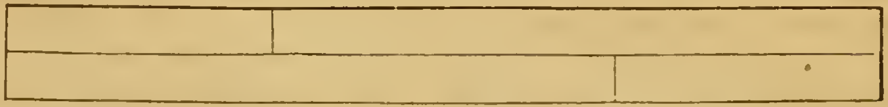

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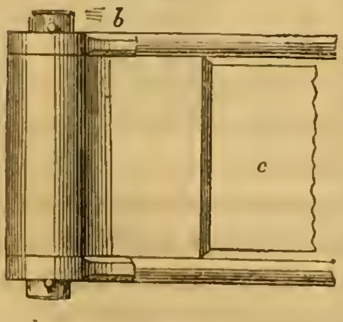

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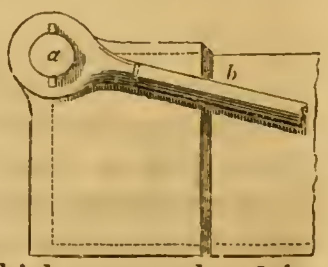

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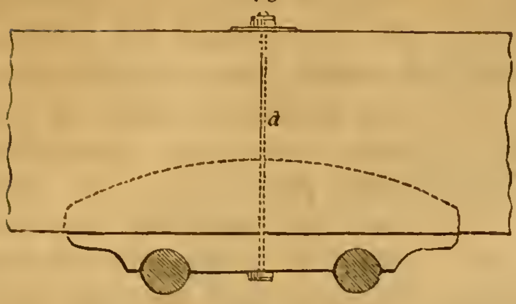

a part of the end of the beam. Another casting (*n*, in *fig.* 72.) is seen more at large in *figs.* 76, 77, and 78. In *fig.* 76., *d* shows the centre part of the beam: in *fig.* 77. the centre part of the beam, 15 in. by 15 in., is seen at *e*; *f* is the cast-iron jaw, *g* is the 2¾ in. bolt, and *h* a rim of iron 7 8ths of an inch square. In *fig.* 78. part of the bottom of the beam is shown at *i i*. This casting forms a sole plate, which lies against the bottom of the beam, in the centre of its length, and it has a cast-iron jaw (*f*, in *fig.* 77.) on each side, serving more effectually to embrace the timber. A ¾ in. bolt (*j j*, in *fig.* 77.) passes through the centre of this casting, and vertically through the beam, to retain it in its place, until the tension bars are drawn up. Against this casting, in two semicylindrical seats, lie two cross bolts, equal in size to those in the end shoes, which bolts are both embraced by eyes from the tension bar ends, and are secured together by link joints, as is sufficiently obvious from the figures, without farther explanation.

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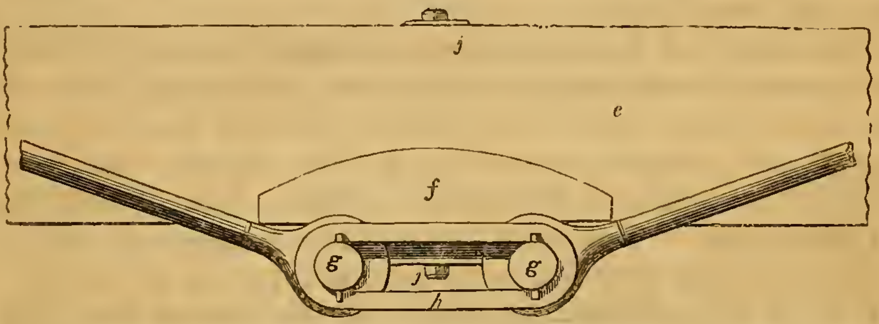

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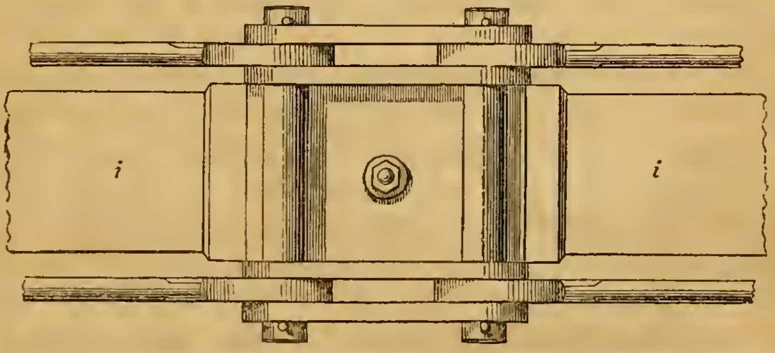

It is seen from *fig.* 72. that there are two tension bars on each side of the beam, inclined to each other at an obtuse angle; and each of these consists of two lengths, each having an eye as before described at one extremity, and a screw at the other.

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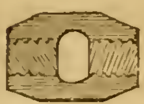

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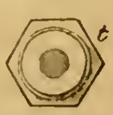

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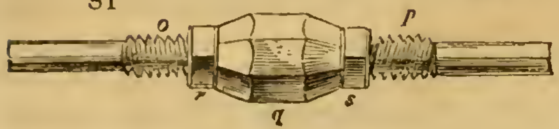

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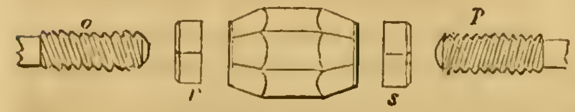

These screws, as opposed to each other, are alternately right and left handed, and are united by the compound nut, shown in *figs.* 79. to 82. In the *figs.* 81. and 82. *o* is the end of a portion of one tension bar, with a very strong right-handed screw cut upon it; *p* is a similar end of another tension bar with a left-handed screw upon it. The large nut *q* is chambered in the centre, as shown in the section (*fig.* 79.), and has a right-handed female screw at one end, and a left-handed one at the other: thus, it is obvious that, the ends *o* and *p* (*fig.* 81.) being just entered into it, by turning the nut one way or the other, the screws will advance to or recede from each other; *r* and *s*, in *fig.* 82., are two loose-set nuts, to prevent the possibility of the main nut running back by any continued vibration of the beam or floor; *t*, in *fig.* 80., is the end of the nut. There are four of these compound nuts on the whole beam, two of which are shown at *u* and *v*, in *fig.* 72.

This is a sufficient description of the various parts of the beam. Now, it is obvious, without entering minutely into the theory of its action, that, as the beam itself affords a firm resistance to the approach of the extremities of the tension bars, and as they are inclined at an angle to each salient towards the bottom of the beam, on shortening them by means of the nuts, the forces in the direction of the bars will be resolved into one, contained within their angle of inclination; that, as the strains upon all the bars are equal, the resultant will bisect this angle, and be parallel to the plane in which the bars lie; and that, therefore, when the beam is horizontal, this resultant will be vertical, and will consequently have a tendency to curve it upwards.

It is also obvious that, from the position of the extreme cross bolts, the beam is exposed to more transverse strains than one; which, however, is unimportant for girders under 50 ft. or 60 ft. in length, and may be neutralised, for those which are longer, by a particular disposition of the tension bars.

Fig. 83. shows the method adopted for securing the binding joists to the girder when trussed; *w* is a saddle of cast iron dropped over the top of the beam. Under each binding joist, a wrought-iron stirrup (*x*) is placed (as shown in the end view *fig.* 84.), which is cottered up at *y y* in *fig.* 83. When all was brought to a proper bearing, the wedges *z z* were driven between the ends of the binding joists and the sides of the girder, and

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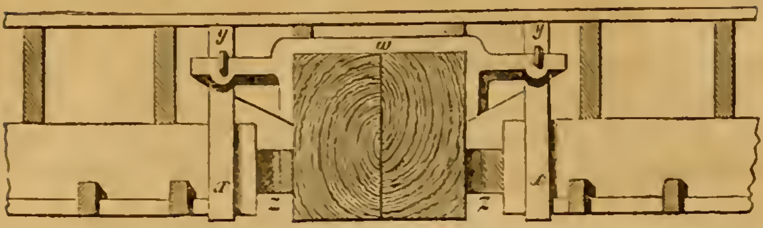

the flooring was laid down. The flooring-boards, &c., and the girder (15 in. by 15 in.), are seen in the section *fig.* 83.

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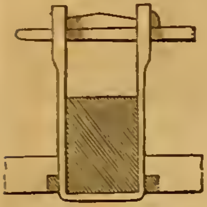

So far for the first operation. We now come to the methods adopted for securing the main partition, &c.

Fig. 85. represents the whole partition stripped. The upper and lower beams were both trussed with oak, as before shown; the roof rested upon the upper beam (*c*); and the partition itself was trussed: notwithstanding which, the whole had sunk about three inches, owing to the decay of the lower beam (*d*); and the joints of the truss had, therefore, opened in various places.

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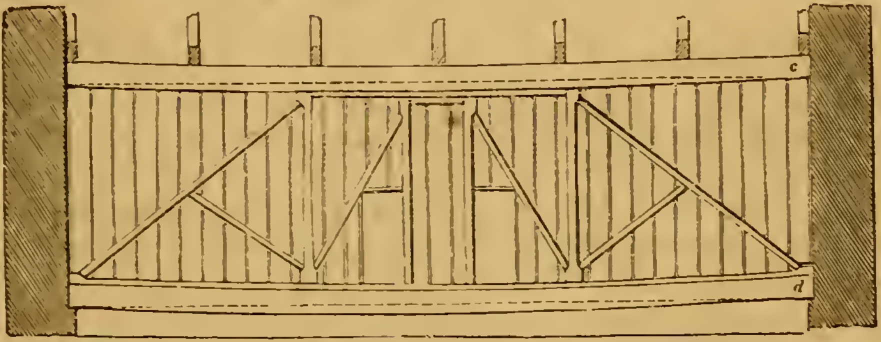

Fig. 86. shows the same partition with the wrought-iron truss (*a b*) applied to it, and brought up thereby. The studding of the partition is left out in this figure, and the truss framing alone shown, together with the wrought-iron truss, to prevent confusion. Each end of the lower beam (*d*) was built about 20 in. into the masonry of the end walls, and was found con-

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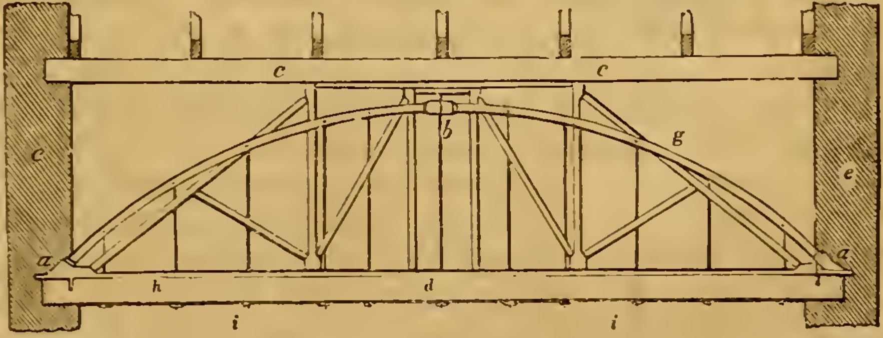

siderably decayed; while, by the subsidation of the partitions, the walls *e e* had become somewhat disturbed. Part of these walls was, therefore, removed for two or three feet round each end of the lower beam, and rebuilt with Roman cement; the decayed portions of the beam being cut away as far as possible, and the remaining portions well soaked in a saturated solution of corrosive sublimate.

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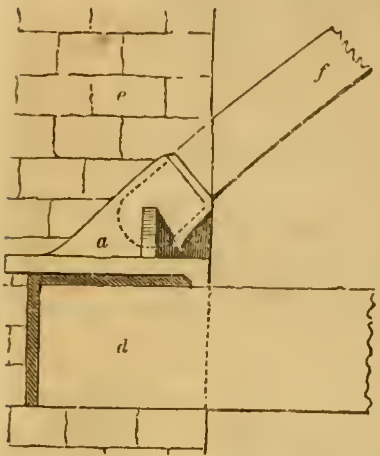

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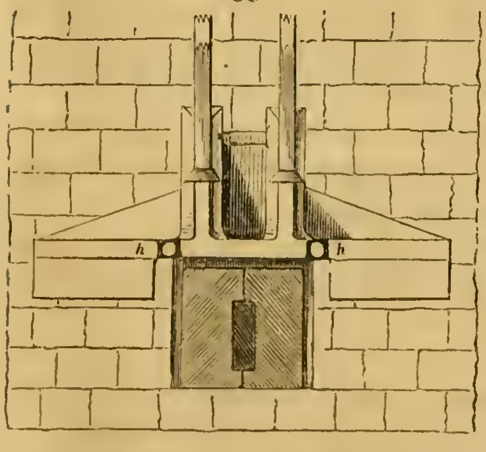

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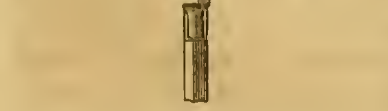
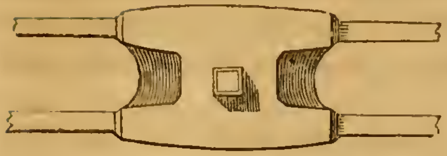


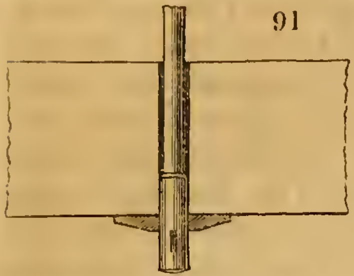
The masonry having been rebuilt up to the level of the top of the beam (*d*) at each end, a strong cast-iron compound socket (*a a*, shown more at large in *figs.* 87, 88, and 89.) was laid upon it, and the masonry was then continued up. These sockets were prepared to receive two ribs of wrought iron (*f*, in *fig.* 87.), 4 in. wide by 1 in. thick, made of common rolled bars, one of which runs in the arch *y*, at each side of the partition, and comes in close contact with it. The sockets (*a a*) are also prepared to receive the heads of two 1¼ in. round wrought-iron tension bars (*h*, forming the chord line of the arch), which lie along the upper side of the lower beam of the partition (*d*), and close to each side of the tie beam of the partition truss: the ends of these are shown in section at *h*, in *fig.* 88. It will be perceived that there are thus two complete arches, one on each side of the partition, which are united so as to form one. Each of these arches is made in two equal lengths, and the four halves of the two arches all unite in the crown by a casting (*b*, *fig.* 86.), shown more at large in *figs.* 89. and 90. From this compound arch, at nearly equal intervals of about three feet, vertical suspending rods (*i i*) drop in the centre of the thickness of the partition, and are passed through holes bored for them in the lower beam, against the under side of which they are cottered fast, as shown in *figs.* 91. and 92. The centre uniting piece (which is shown in profile in *fig.* 89. and in plan in *fig.* 90.) has a square socket for the central suspending rod, into which the

90



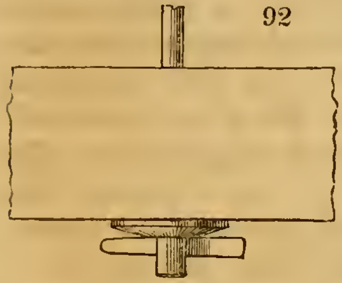
latter is cottered; all the other suspending rods are made fast to the arch by a broad strap link, passed over a cross bolt, as shown in *figs.* 93. and 94.

91



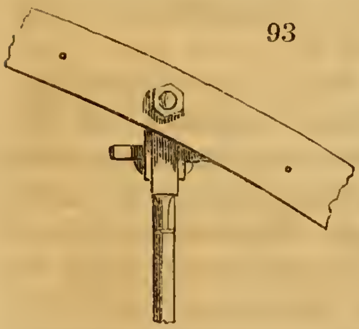
These cross bolts also serve to unite both arches firmly throughout; besides which, they were marked in their places, and bored, in order to be spiked to every stud and upright, &c., that they intersected, so as to have a complete grasp of the partition from end to end; but this spiking was not performed until the partition had been all brought up straight, for obvious reasons.

92



From this arrangement it will be perceived that the iron truss, or arch of suspension, is supported firmly at its ends in the vertical, by the solid masonry of the walls, and that all lateral thrust upon the latter is removed by the tension bars in the chord of the arch. It is also obvious that the arch is prevented from yielding sidewise by the stiffness of the trussed partition itself, to which it was abundantly sufficient; it, therefore, is capable of resisting the force necessary to be applied to all the suspending rods, to bring up the whole partition, which it did effectually.

93



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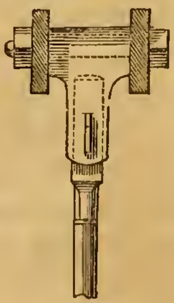


The end castings, or skew backs (*a a*, *fig.* 86.), were kept about three fourths of an inch clear of the lower beam above them, and an air space was left in the masonry behind and at each side of them. I should have mentioned, that the same was done with the new girder, which was put in; and, as it was so near the fireplaces, means were taken to establish and preserve a current of air always through the cast-iron sockets in which the ends rest.

As soon as the partition was brought up, and all found right, the arches were spiked to all the uprights, &c.; the ironwork was well painted, and the plastering laid on. The ceiling also of the board room was begun; but, owing to the projection of the centre links of the trussed girder (*fig.* 78.), and of the bottom ends of the suspending rods, it was found necessary to fur down the ceiling joists about 2½ in., and also to give the central ornament rather a greater relief than would have been ordinarily necessary; but not such as was in any degree unpleasing: these were all the alterations in the ceiling consequent upon the trusses.

When the partition was brought up, it was seen that the roof necessarily went up too; and as its subsidation had caused the front wall to lean out, there was danger that any alteration in the position of the roof might send it out entirely: it was, therefore, stitched by eight bars of $1\frac{1}{8}$ in. round iron, passing through the wall plate, and cottered over large cast-iron ornamental washers outside the wall, to the upper beam (*c c*, *fig.* 86.) of the partition; and, lest this should yield at all by bending sidewise, two bars were passed from it, dividing it into three equal segments, through the rear wall, and these were made fast in a similar way. These bars passed above and lay on the ceilings of the upper rooms. All this caused but little disturbance in the roof or covering. The floor of the back rooms, supported on the rear beam, had not sunk. This beam was much shorter than the others; and, on examination, we found that it was not trussed at all, nor decayed, although one of its ends went into a chimney pier; thus corroborating the conclusion that the oak trusses had been placed in the others wet, and that this circumstance, together with the heat, had been the cause of the decay.

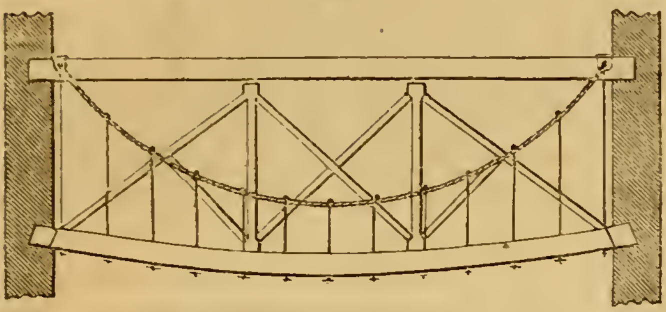
The whole of the work was completed in about six weeks, and cost under 300*l.*, exclusive of the board room ceiling.

When finished, the floors were exceedingly stiff, and they have continued so ever since, without yielding in the least; it may, therefore, be pronounced that what was done was probably as good and economical a mode of procedure as could have been adopted.

The mode of trussing girders here described I recommend for general adoption, having used it in numerous instances and for various spans, with perfect success. Not long since, we drew up the ceiling of a very large library, which had sunk some inches, by means of this mode of trussing. The ceiling, which was highly enriched, was uninjured by the operation; but, so incredulous was the architect in this case, that one of our foremen, who superintended the execution of the work, actually performed the hazardous feat, after the ceiling had been raised, of lowering it down again to its original level, and then bringing it up straight, to satisfy him that it could be done. The details of this, if you think proper, I may perhaps send you, at some future time. [We shall be most happy to receive them.]

The other truss is not so generally applicable; but I imagine, in most cases of large and heavy partitions, that they would be more economically trussed by a modification of it than by a huge framework of timber. When the partition is very large, wrought-iron bars are unfit, and in such cases castings may be substituted; but, for moderate spans, wrought-iron flat bars possess the great advantage that they may be readily bent to any curve by being applied to a cast-iron mould when heated in a boiler-maker's oven.

95



Where the upper beam of a heavy trussed partition remains good and sound, but the lower one has failed, and the partition has, therefore, parted from the upper one, perhaps a suspension chain, made fast to the extremities of the upper beam with vertical rods to the lower one, would be the most economical construction, as in *fig.* 95. This mode, however, cannot be adopted when there are doors or other large openings in the partition.

This notice is over long for the subject; but it must be remembered that practical information in detail, which is the most valuable of any to the practician, can only be given by minute and often prolix description.

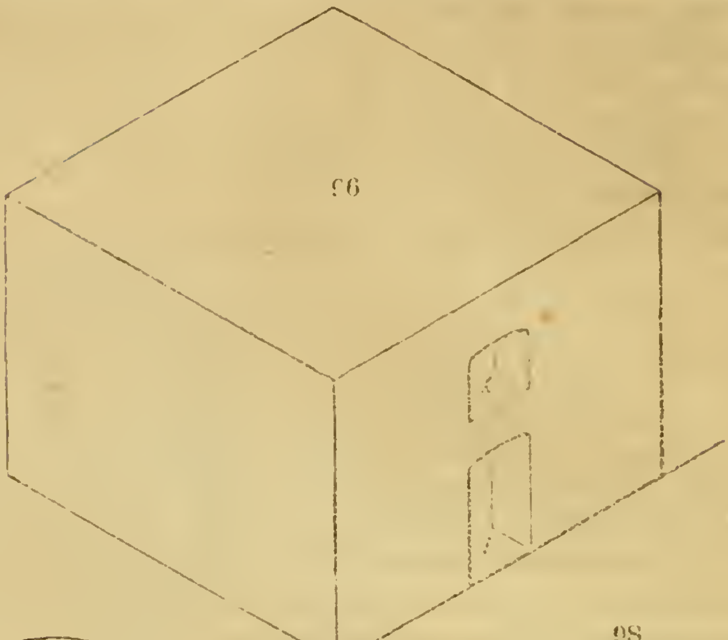
Capel Street, Dublin, 1834.

ART. VII. *A Description of an Egyptian Oven.*

By MASHDOUD MOHANDEZ.

THE following is the description of a private oven, as public ovens in Egypt are not so numerous in proportion as they are in England. In villages and small towns, scarcely a public oven is to be found, except in those places which are most frequently visited by travellers, and where the influx of strangers is greater than could be well provided for by the inhabitants.

Fig. 96. represents a private oven; *fig.* 98. is a section of the same; and *fig.* 97. is the *arssa,* or oven plate: see *a,* in *fig.* 98., which represents the same plate. This plate is generally about 5 ft. in diameter, and 3 in. thick; it is made thicker at the margin, and curved inside, next to the arch *b.* The place left at *c* is for the fuel; to complete the aperture necessary for which, a part of the oven wall is also left out opposite *c.* The aperture is always on the left-hand side, and the ashes fall in the direction of the dotted line at *d.* The oven is built with bricks.



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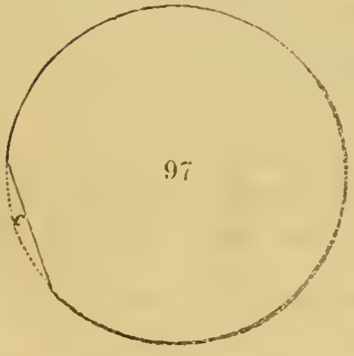

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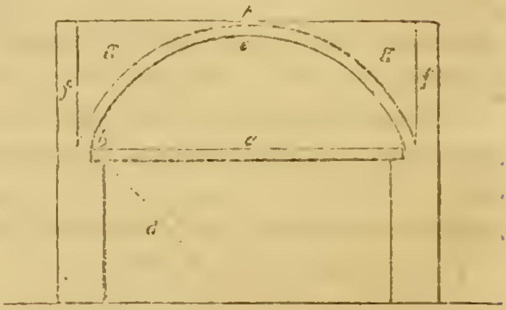


98

After the arssa is put in its place, as it is at *a* in *fig.* 98., and the circular arch *e* is built, then the wall *f f* may likewise be raised; when that is done, the places at *g g*, and all around the arch, are filled up with small stones, broken bricks, &c., till about 1½ in. from the top, and that is finished up to the line *h* with soil, hemp dust, and ashes, all mixed together with water, till the mixture gets hold and makes a strong cement. The mouth of the oven is *k* in *fig.* 96., and *i* is the ash-pit. The arssa, or oven-plate, is the most important part of the whole, and its composition is as follows: — The broken earthenwares, as old pots, &c., are gathered together, generally by old women, who then take a stone, about 18 in. square, and with it and a mallet reduce the earthenware to what they term *hummra*, or powder; with this they mix about one third of the *best soil*, and some hemp dust, in pieces a quarter of an inch long. These materials are mixed with water, after which the workmen take a piece of wood about 4 ft. long, 3 in. by 4 in., and rounded at one end for the hand: with this they beat the composition until it becomes tough; when so, it is fit to be worked; they then spread the ground over with ashes, and on the same make the arssa.

When this plate is fixed in the oven, and is fit for burning, it is charged first with the common fuel, viz., cotton trees, straw, &c. &c.; and after the fire gets up well, they charge the oven with animal bones until the arssa is thoroughly burnt. I have seen this done in our own house, and in several other places, but never did I know the reason why animal bones are always made use of in burning the arssa. When the arssa is thoroughly burnt, the oven is cleansed out, and is then fit for use.

The mouth of the oven is very low, consequently the women, when baking, always sit opposite to it. This is a very unpleasant situation, as the oven has no chimney to it, and all the smoke finds its way out of the mouth.

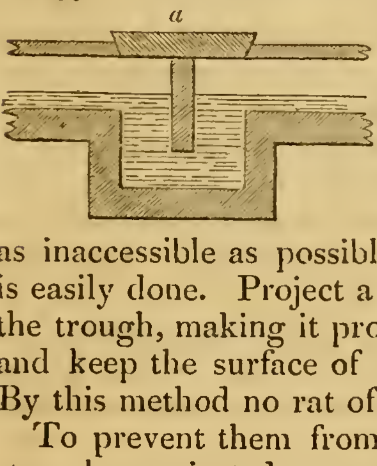
Norwich, December 23. 1834.

Art. VIII. *Hints on the Prevention of Vermin.*

By John Milne, Esq.

The aliment of mice and rats consists of nearly equal food and water. In farmeries the first cannot be withheld, but the latter may. All drains should be made of close-jointed stone, or of bricks, with properly constructed air traps; see *fig.* 99., in which *a* is a stone which is made to lift up to clean out the earth or other matter from the trap.

99



Roof gutters, if any, should be made as inaccessible as possible; water troughs decidedly so. This is easily done. Project a wooden fillet or frame all round within the trough, making it project 3 in. or thereabouts into the trough, and keep the surface of the water about 3 in. below the frame. By this method no rat of the ordinary size can get a drop.

To prevent them from getting up into the roof; let a flagstone be projected over each of the interior angles. No walls, especially of dry stone, should be allowed near the buildings; or, at least, to come in contact with them near the level of the walls.

James's Square, Edinburgh, January, 1835.

Art. IX. *Architectural Maxim.*

When the first impression made by a building is of an undecided character, so that we feel at a loss what to say of it, the presumption is, that it is bad. There is evidently, in such a case, a want of unity of effect, and of decision of expression, which always accompany real beauty.

REVIEWS.

Art. I. *A Letter to the Right Hon. Sir Robert Peel, Bart., M.P., on the Expedience of a better System of Control over Buildings erected at the public Expense; and on the Subject of rebuilding the Houses of Parliament.* By Lieutenant-Colonel the Hon. Sir Edward Cust. Pamphlet, 8vo, 18 pages. London, 1835.

With almost every opinion expressed in this pamphlet we entirely agree; since its great object is to advocate a free competition for the authorship of designs for public buildings. We are not quite sure, indeed, that the writer of the letter would go to the extent which we think desirable; for we would not only allow all architects whatever to compete for giving a design for a public building; but, in the examination of the designs given in by a committee, we would have all their different merits or demerits discussed in public, and reported in the newspapers. The designs themselves we would have exhibited in an apartment open, at all reasonable times, to public inspection. We think the principle of entire publicity should be applied to every mode of employing the public money. The public, who pay, have surely a right to determine what they will pay for; otherwise, what is the meaning of a representative government? Perhaps, in the commencement of a line of proceedings so entirely new, some errors might be committed at first; but the very cause of those errors would lead to their correction; would lead not only to the improvement of our public buildings, but to a diffusion of knowledge, in matters of taste, as generally as the publication of the discussions in parliament has led to a diffusion of political knowledge.

Having stated thus much, we shall now allow the author of the letter to speak for himself; most heartily recommending his arguments to the consideration of our readers, and more especially to such of them as are in parliament.

"As an amateur, delighting in the pursuit of architecture beyond the other elegant arts, my attention has been long directed to the extraordinary disparity which exists between our national advance in this art and that of other countries, as displayed in the recent public buildings of London and in those of their capital cities; nor, indeed, will the comparison be improved, if it be extended to the works which have been constructed under private management both in this city and the country. I have not hesitated to raise my feeble voice, both in Parliament and out of it, against the system which has led to this result. Had my abilities been equal to my zeal, the public would have been spared all the mortification that has been experienced about Buckingham House, and perhaps might have been benefited in regard to the National Gallery.

"A rumour is in circulation that an architect has been already directed to prepare plans; that he has been, in fact, appointed to the duty of building a new House of Parliament. I hope this is not so. I will take the liberty of speaking of that eminent individual with the freedom that is permitted towards a known public character. I do not think the selection will give satisfaction. I doubt whether the poverty of his taste is counterbalanced even by his other professional acquirements, and by the unimpeached respectability of his character. But my business is not with individuals. I object to any appointment that is not accompanied with some avowed responsibility in the party making the selection; and, further, to any appointment without some avowed control over the course of his proceeding. This has been the vice of the old system: under the Board of Works, each architect had, by an assumed right, a claim to employment over a particular district, without admitting of any interference. The Commissioners of Woods and Forests are now *supposed to have* the appointment and control, yet their responsibility on this head has not as yet been acknowledged by them, and certainly has not appeared to be of much avail over the architect in the progress of his work. No one can say that the experience of the past would justly bear out the inference, that the system under which the public buildings have been erected of late years has been a happy one. I may almost assert, that all the public buildings of the last half century have been behind the average architectural talent of their day; and this, as it appears to me, is manifestly because the employment has been consigned to professional men, whose distinction has been, in a principal degree, the reputation of a former day, and who continue to be employed rather for their experience as respectable men and practical builders, than for the popularity of their taste and abilities; men, whom the very circumstances of their position have already made mannerists, and induced to despise the altering taste of the times. It is very true that, in matters not connected with the imagination, the world is disposed to be led by the experience of a well-known name; but in matters of taste it is not necessary that we should be eternally bound to the senior of his day. The most eminent statesman of any time cannot venture to set at defiance all public opinion: but the artist who imagines himself placed above his compeers, assumes a claim to direct exclusively a mystery, which not even one of his own craft, much less an amateur or one of the public, can presume to gainsay or control. A painter or a sculptor, a merchant or a retail dealer, must condescend to suit his article to the market; but the leading architects of our times have aspired to bend the public to their fancy, and haughtily refuse any obedience to the spirit of the age. In proof of this assertion, I could point to the New Courts of Law and Buckingham Palace, as admitted and most glaring instances of the position I am stating.

"It would be ungracious to living architects (many of them individuals of the highest respectability) to enter here into a detailed criticism of their works, in order to prove the points to which I may allude in passing; nor do I desire to reflect upon the whole profession in any thing that I state. I firmly believe that there is abundance of native talent, if it were brought forward. I have the firm confidence in my own mind of the extent of our national ability in this department of art; but I would ask any travelled man who has not been farther even than France or Germany, whether, upon his return to London from Paris, Berlin, Brunswick, or Munich, the appearance of our new public buildings has satisfied him; and whether he does not feel humiliated at the idea that we should appear to be so surpassed in them, whilst he may assuredly know that we have men in the profession capable of competing with any foreign architect? The imaginary traveller, whose opinions we have of late years so often heard quoted, would doubtless conclude, from our Metropolitan architecture, that the stock-in-trade of a British architect consisted of a few columns of each of the five different orders, of which he invariably disposes about one half in the centre, and then divides the remainder between the two flanks of his building. The extent to which his imagination appears to soar is, as to the disposal of the masonry which is requisite to carry his building to a certain height; and this would appear always to be settled by some fatal rule which cramps its elevation. He sometimes will place the required mass below his columns, as at Buckingham

House; sometimes above them, as at the Board of Trade; and sometimes, with greater impartiality, it is divided half below and half above, as at the New Post Office.

" In the absence of a well-stored mind, merit is sought to be obtained by the introduction of architraves to the doors and windows, of no very striking proportion to the rest of the building, nor of any abstract beauty in themselves; but which John Bull is told he must admire, because of undoubted Grecian authority. These are to be thrust in, without much consideration of their fitness, into the very portion of the building which has been already made as fine as the slender resources of our artist can enable it to be. It is an extreme innovation amongst us to allow the cornice, either to be at the top of the elevation, or of any considerable relief, when it is placed there; so that it might be presumed that the quality of our material did not admit of any greater dimensions, or that some municipal regulation disallowed it.

" It is unnecessary to continue the criticism further; for it is admitted by every man of judgment in the art, that the universal characteristic of our recent public buildings is meagre outline and feeble invention. I have no intention, in what I have said, to speak disrespectfully of the Orders of Architecture, or of Grecian example; but to deal with the former as our artists do, is as if a poet were to toss about a few favourite words into nonsense-verses, without caring for the sense or the application: whilst the mere reference to classic authority, without a thought of the fitness or propriety of its introduction, is like an essayist who strives to make up for the poverty of his own powers by a continued imitation of the Johnsonian style. The pedant in literature and the pedant in architecture are not very dissimilar; and, although the architect should store his mind with every thing that has been considered excellent in his art, as the man of learning should with all that has been written, yet eminence will in neither case be attained but by him who can aspire to break through the trammels of the schools, and show his own generation an example of noble daring.

" The history of the late Parliamentary Buildings affords a striking illustration of the error of the system I am deprecating. It is fresh in our recollection how discreditable they were to the arts and taste of the nation. Indeed, no regret has ever been expressed at their destruction; they were universally felt to have been below contempt as works of art; and all the feeling that was excited on the subject was for the safety of Westminster Hall and the Abbey. Yet these last were the works of times reputed barbarous, and the former that of our own days, when we flatter ourselves we are so advanced in civilisation. No money was spared for their erection; as a slight reference to the parliamentary accounts for a series of years would testify, to the amazement of the public. These buildings were undertaken in the first instance by the late Mr. Wyatt, who was left, without any control, to adopt a style of his own, which he called Gothic; and it then devolved upon another architect, left alike under no superior control, to follow up the work of repair; and who, perfectly regardless of the style which his predecessor had followed, introduced a new extravaganza, which even an admirer of his taste (if there be one) cannot but feel was in direct violence to every style that reigned around it. Thus, a most incongruous group of building, alike unmeaning in design and flimsy in substance, but of absurd extravagance in cost, existed in just reproach to the arts of England, which were put to shame for a fault in a great measure owing to the system under which they had been allowed to be reared.

" Another palpable instance of the evil of an uncontrolled discretion in the architects employed on public buildings is presented in the history of the marble arch at Buckingham House. It is not my purpose to discuss whether this was judiciously placed there, nor to become in any way its advocate. Marble was brought over from Italy for its erection at a great expense; it was originally calculated for a record of our victories, by land and sea, during the late war. The most eminent sculptors of the day were employed in its decoration. A change takes place in the architect employed at the adjoining palace; and, without any consideration of its special and distinct object, without any regard for the works of such men as Westmacott and Bailey, the relievos that were intended to illustrate Trafalgar and Waterloo are transferred to other purposes. Works of art, calculated for a given height, are raised beyond the reach of observation; and it will scarcely be credited, and is perhaps not generally known, that the most beautiful spoils of a work distinctly voted by Parliament to commemorate our glories, have been even carried away to another public building, and that the death of Nelson has been thought an appropriate decoration to the Gallery of the Fine Arts. Had any proper control existed, no such *barter and change* could have been permitted; and yet, although this has been done even before our eyes, I do not expect that any man, or body of men, will be found to whom the responsibility of such folly can attach. I will pass over the absurdity of the arch in the Green Park, erected by one architect as an entrance to a palace garden, in the rear of which his rival made an immense reservoir of water to prevent such an appropriation of it, and pass at once to the conclusion at which I am desirous to arrive: it is one in which the public will, I believe, participate; that the architect to be employed on our public works should cease to be a personal selection, and that something of a competition, not from among the mere tyros of the profession, but from the large class of its 'very first line' should be resorted to, in order that the best talent of the day may be elicited; and that the selection and control over the architect should vest in some authority who can be held responsible for what is done, and who may prevent the abuses to which the public have been exposed on these subjects, to the loss both of our money and our reputation.

"The rebuilding of the Houses of Parliament affords an opportunity for trying the effect of a new method of proceeding. Let us first state what is the system that requires amending. The last plan adopted by the government was, I believe, to call in council a certain number of the sages of taste. The public is, I believe, still in ignorance of the method adopted in the selection of the architect. As usual, to use a vulgar phrase, 'a tub was thrown out to the whale;' and, as in the case of Buckingham House, the country was informed they were only going to enlarge an old building; so, another old building was to be patched up and altered at a trifling cost, and on the top of the scheme the minister found an architect ready to his hand, without it being known correctly at whose door the responsibility of the choice remained. I desire to allude no further to this business than is necessary to show that the vice of the old system remained up to the very last occasion on which the selection of a state architect was made. No responsible authority took the trouble to consider previously, whether the old building to be altered would answer the purpose; for no sooner was the architect 'in the saddle' than an entirely new building was found to be necessary. No responsible authority selected the architect, and if he has since been controlled in the execution of the work, it will be very satisfactory to the public to know whom it has to thank for the building now in progress. He is understood to have got the appointment by his own management, and he is believed to continue the work entirely without the control of any acknowledged supervisor. How far his work will satisfy the country, it is not the time, nor is it my present purpose, to enquire."

We pass over some paragraphs, to notice the author's proposition, which is, —

"That to a commission of five gentlemen should be intrusted the mode and extent of competition; the selection of the architect; the consideration of the style of building to be adopted, and the arrangement of all its details, leaving the business of finance to be controlled and checked by the office of Woods and Forests; a division of business not very dissimilar to that which exists between the Commander-in-Chief and the Secretary-at-War in the government of the army."

The pamphlet concludes with the following summary of what he has been desirous to show: —

"That the architecture of our late metropolitan public buildings is inferior to that of other countries.

"That it is, in truth, behind the average national talent of the day.

"That this is entirely owing to the system which has been adopted by former governments, under which the architect has been originally named, and afterwards left without any effective superintending control or responsibility."

All that is wanting to render our public buildings what they ought to be, is the application of general principles. Let us have free competition, and public discussion, and we shall have such edifices as we ought to have. If these at first are not equal to those of other countries, it will only show that the national taste requires cultivation: and this, we are convinced, will be sooner attained by free competition than by any other mode whatever.

Art. II. *A History and Description of the late Houses of Parliament, and ancient Palatial Edifices of Westminster, &c.* By John Britton and Edward W. Brayley, No. II.

We have commended the first number of this curious, interesting, and most beautifully executed work in p. 71.; and we have now to notice No. 2. as of equal merit. The first plate it contains is a plan of the parliamentary buildings, &c., in which the gigantic proportions of Westminster Hall (239 ft. long by 89 ft. broad) have an impressive appearance compared with the pygmy dimensions of the Law Courts and other public offices by which it is surrounded; nevertheless, grand as this building is, it is not equal in size to the exercising-house at Moscow; the dimensions of which are 502 French ft. long, by 150 ft. broad; with walls 40 ft. high, and 8 ft. thick. (*Encyc. of Cott. Arch.*, p. 970.) The other plates are, a ruined wall with three windows, formerly those of the Court of Requests; the east end of St. Stephen's Chapel; and the vestibule at the west end of it. The letterpress extends from p. 33. to p. 64.

Art. III. *Winkles's Illustrations of the Cathedral Church of Salisbury, &c.* The Description by Thomas Moule, Author of "An Essay on Roman Villas." Nos. I. and II. 4to. London, 1835. 1*s.* each. To be continued monthly.

This is one of those extraordinarily cheap and beautifully executed publications which may be described as characteristic of the present age of British literature. The letterpress is by an author already distinguished for a classical work; and the engravings on steel are by artists who, in the numbers before us, have proved themselves fully adequate to execute this description of art in the best manner.

No. 1. contains, as a vignette title, the entrance to the Chapter House of Salisbury Cathedral, drawn by H. Winkles, and engraved by B. Winkles; a south-east view of the cathedral, drawn by J. Archer, and engraved by H. Winkles; and a view from the south to the north transept of the cathedral, by the same artists. The softness and beauty of these engravings merit every praise. There are eight pages of letterpress devoted to the history of the cathedral.

No. 2. contains a view of the west front of the cathedral, by the same engraver, after a drawing by Hablat Browne; the interior of the Lady Chapel, drawn by H. Winkles, and engraved by Turnbull; and a view of the north front of the cathedral, drawn by Browne, and engraved by H. Winkles. The letterpress is eight pages, in continuation of the description.

The extraordinary cheapness and superior execution of this work will, we trust, secure it an extensive sale. At first view we thought it might interfere with Britton's *Cathedrals;* but, as the engravings in the latter work are on a larger scale, and are drawn with the greatest accuracy, they are calculated to be of more use to the architect. The work before us addresses itself to the general reader and amateur more than to the professional man.

Art. IV. *Billington's Architectural Director.* Parts X. and XI. *5s.*

These parts conclude the work. They contain one folding, and no fewer than seventeen 8vo plates! so that, whatever may be the merit of the work in other respects, it is at all events abundantly cheap. Cheap as it is, however, we can by no means recommend it as likely to be of much use either to the practical man or to the amateur. It may give a very accurate knowledge of the technical details of the five orders, but that is all that we can say in its favour.

Art. V. *Designs for Mural Monuments, Monumental Tombs, and Chimney-Pieces, with useful Details, to a large Scale.* By T. Faulkner, Architect, Author of "The Organ Builder's Assistant;" "Select Designs for Churches;" and "Designs for Shop Fronts." 4to. 5. Yardley Street, Wilmington Square, London; 1835.

The first plate is a monumental tomb, the lower member of which is a plinth, next a torus, and then a fillet, above which is a broader fillet or band with angular ornaments, which complete the first or lowest part of the whole. The centre or main body is a tapering pedestal, with a sunk panel; and this is surmounted by a sort of cornice, above which is a pediment. The second plate is a very artist-like design for a chimney-piece. The third is a chimney-piece in the Gothic style, very elaborately ornamented. The fourth is a Gothic funeral monument, consisting of two side-pieces, with a niche and pedestal for a statue between. The engravings are to a large scale, very distinct, and likely to be useful to workmen. There is no letterpress.

ART. VI. *Engravings.*

1. *VIEW of the Great Saloon in the Pantheon from the North Gallery.* Drawn and etched by Thos. Kearman, 17. Euston Place. London, Bielefeld. — This is a very beautiful view, and fully justifies our remark in p. 3. We could almost wish that a view from the south gallery were published, in further confirmation of what we have there stated. The principal object in publishing this engraving is to show the effect of the figures and enrichments, which were all modelled and executed in *papier mâché* by Mr. Chas. F. Bielefeld, 16. New Road.

2. *Sketch of the South Window of Westminster Hall, with the Ruins of the House of Lords, &c., as they appeared on Nov.* 1. 1834. Drawn and lithographed by Jas. Deason. London. Weale. — These ruins have called forth almost innumerable sketches and views; and in that respect the fire has been of service to the artists and the lithographers. We hope it may ultimately be so to architects and to the public taste. The view before us, by Mr. Deason, is one of the most tasteful and artist-like which has been produced. There is not the slightest appearance of labour in it, no masses of shade to conceal bad drawing, or to lessen labour; but the details of every part are beautifully and accurately made out, and there is not a touch given which does not tell. There are a number of figures, chiefly workmen employed, and also two horses and a dog; and, without showing the individual features of any of these, or at all obtruding them on the attention, so as to interfere with the general expression of the whole, the effect given to each figure even to the dog, is quite astonishing. Altogether it is a very clever sketch.

3. *View of the Remains of St. Stephen's Chapel, on the Morning after the Fire of the* 16*th of October*, 1834, *taken from the Roof of the Speaker's Gallery.* By John Taylor, junior, architect, and drawn on stone by A. Picken. Dedicated by special command to His Majesty. London: published by John Taylor, junior.—This is a highly finished drawing, and is of considerable

size. It does the greatest credit to the young artist, who is the son of a highly respectable architect, many years established in Westminster. It is one of the best views of these ruins, for being framed, which we have yet seen. The lithography is also by a young and highly deserving artist, of extraordinary talent.

Art. VII. *Literary Notices.*

The History and Antiquities of the Castle at Coningsburgh, in the County of York. By Henry F. Lockwood and Adolphus H. Cates, architects, is in preparation. — This interesting relic of feudal grandeur, the chosen scene of a considerable portion of Sir Walter Scott's romance of Ivanhoe, and intended subject for the display of that illustrious author's antiquarian talent, has been selected for the continuation of the work on Ancient Military Architecture, as one of the most perfect specimens of Anglo-Norman art this country can afford. To give still greater attraction to a publication on this noble remain, the most extensive excavations have been undertaken, which have led to a full developement of the original manner of effecting an entrance into the keep, showing the former appropriation of the supposed dungeon, and the arrangement of the numerous buildings which once existed around the court yard. The various discoveries, the beautiful site, the form and details of this singular edifice, and of the British earthworks on which it is established, will be fully illustrated by a series of etchings, nine inches by seven and a half inches, on copper, from original drawings, accompanied by plans, an architectural description, and a historical account, chronologically arranged from the earliest period.

The Arboretum Britannicum, of which we give a specimen in the present Number, though chiefly calculated for gardeners and landed proprietors, is yet a work that will be of the greatest use to the architect. To such as practise in the country, or as put landscape scenery to their finished drawings, it will be of very great value. But as it is now becoming general for architects in the country to combine the practice of landscape-gardening with that of designing buildings, the *Arboretum Britannicum*, to such architects, may be considered as essential as an elementary work on architecture; trees to a landscape-gardener being what the five orders are to the classical architect. To one feature in this work, not to be found in any other, we beg to call particular attention: it is, that all the trees are drawn to one and the same scale of a quarter of an inch to a foot; and all from specimens of the same number of years' growth (ten years), in the same climate, and in the same soil (all the drawings being taken from trees now growing in gardens within ten miles of London). By this means an architect or an amateur who knows very little of trees may recognise by a single glance the comparative rapidity of growth of different species. He may see not only the height which they attain in a given period, but their bulk, and general shape; and if he does not know one tree from another botanically, he has only to notice the botanical specimens, which are given along with the portrait of each tree to be able to distinguish them. These specimens are also to one and the same scale; namely, two inches to a foot, and they are not merely confined to specimens in flower, but include specimens in fruit and in seed. When the flower or seed is less than an inch across, a single flower or seed is given, in addition, of the natural size. Deciduous trees have a specimen of the spray as it appears in winter. To landscape-painters, and all who draw from nature, the work will be of much use. We trust that in a few years it will dispel the general ignorance that now prevails among almost every class, except botanists, of the foreign trees and shrubs which might be introduced into our pleasure-grounds. The work will be completed in 24 monthly numbers; and, to the young artist who wishes to study trees botanically as well as pictorially, we would recommend the partially coloured copies.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

The long Duration of the Norman Architecture is to be ascribed to two causes; the narrow dimensions of the buildings themselves, and the perpendicular pressure of the semicircular arch. But the pointed arch universally, and especially the broad flat arch of Henry VIII.'s time, has a strong lateral pressure, and, being sustained on slender columns, has a perpetual tendency to throw them and the adjoining walls, in one direction or other, out of the perpendicular. It was for this reason that the pointed arch introduced buttresses, the projection of which gradually increased as the arch became more obtuse. It is to this cause, almost exclusively, that the decay of so many churches and chapels of that period, which have failed within my recollection, is to be ascribed. And of those which were enlarged at the same time from the old Norman structures, I will venture to predict, that, if left to themselves, the remains of the original building will long outlast the additions. (*Whitaker's Hist. of Craven*, p. 432.)

The Italian Mode of excluding the Common House Fly (*Músca doméstica* L.) *from Apartments.* — This mode was pointed out to William Spence, Esq., in Italy, two or three years ago, and is published in the first number of the *Trans. of the Entomological Society*, and his son has subsequently discovered that it was known in the time of Herodotus, and practised by the fishermen of Egypt. It is simply to cover the openings of the windows by a net of white or light-coloured thread. It is remarkable that the meshes of this net may be an inch or more in diameter, so that there is actually no physical obstacle presented to the entrance of the flies even with expanded wings. The flies seem to be deterred from entering from some inexplicable dread of venturing within the network. It is even found that " if small nails be fixed all round the window frame, at the distance of about an inch from each other, and threads be then stretched across both vertically and horizontally, the apparatus will be equally effectual in excluding the flies." It is essential, however, that "the light should enter the room on one side of it only; for if there be a thorough light, either from an opposite or side window, the flies pass through the net without scruple." (*Trans. Ent. Soc.*, i. 4.)

The above facts are of interest both to the occupiers of houses and shops in temperate climates, and the architects of houses for warm countries. They also supply useful hints to butchers, and, indeed, to all persons to whom flies and gnats are an annoyance. The facts further show, that sciences apparently the most remote from architecture may yet afford useful hints for improving that art. — *Cond.*

The Wring Duke is an instrument for wringing cloth, used by the bleachers of fine linen in Holland previously to the year 1751, being described in the *Gent. Mag.* for that year, vol. xxi. p. 196. Its mode of action is the same as that of the wringing machine, described in your *Encyc. of Cott. Arch.* § 2075. The fine linen, in both cases, is put into a bag of coarse cloth, that it may not receive damage from the twisting. The writer of the account in the magazine adds the following remark :—" Another method of getting the wet out of linen, used by our whitsters (bleachers), is to pass the wet pieces between two rollers." This is the principle of your washing machine (fig. 1262. § 1381.) in the same encyclopædia. If the above coincidences show that the machines are not new, they also prove the practicability of their use; for, assuredly, if they had not proved profitable to the "bleachers of fine linen in Holland," and the "whitsters in England," they would not have been used by them. — *T. W.*

Art. II. *Foreign Notices.*

GERMANY.

Berlin, *Feb.* 14. 1835. — Prince William's palace, which is at present building, has been constructed on a plan made by a very skilful architect, M. Langhaus, son of the gentleman whom genius inspired with the idea of imitating the propylæa of Athens, when he built the famous Brandenburg Gate. M. Langhaus the younger is well known as the architect of the exchange at Breslau, which is considered as one of the handsomest buildings in the province of Silesia. It was a difficult task to build, on a spot circumscribed by the large buildings contiguous to it, a palace which would afford room for so magnificent a household as that of Prince William will be, when he is to take up his residence in his new house. According to a rumour circulating in this place, it was chiefly owing to the attachment of the princess to the particular spot on which the palace has been built, and on which stood the house which served as a temporary residence to their royal highnesses. By extending the front of the building to that of the royal library, viz., to the same line, two of the finest and most elegant rooms of the latter have been rendered so dark, that they may be looked upon as perfectly useless, and the great bulk of the library, which, as you know, may be ranked amongst the most magnificent buildings of the age of Frederick the Great, contributed towards making the prince's palace appear as rather mean and insignificant, however large the building may be of itself. The king having presented to his son, the prince, the palace inhabited by the late minister of the interior, Baron Schuckmann, close by the royal library, but facing the next street, the prince has been enabled to effect a junction with this edifice, and thereby to enlarge his fabric. It will no doubt become one of the largest palaces in Berlin, but exceedingly compact and close, as it is surrounded on all sides by heavy masses of buildings.

The new academy for architecture, &c., built by M. Shinckel on the site of the old custom-house, resembles more a sugar refinery than a building destined for the reception of pupils who are to take it for a model. It is a perfect square, built of raw bricks, and ornamented in the way of the large Florentine and Venetian palaces. The views from it will be beautiful, as it commands the river; but the contrast it forms with the neighbouring buildings, which are all plastered and painted, is by no means favourable to the impression it produces at first sight. I have not yet been admitted to see the interior, but shall send you a description as soon as this shall have been the case. The ground floor is to be entirely occupied by shopkeepers; and large vaults, magazines, cellars, &c., will afford room enough for housing merchandize.

Four new churches, for the use of the suburbs, have been built, also on M. Shinckel's plans: they look, however, more like antique temples than like Christian churches, as the king has not allowed steeples to be built upon them, which would have been the more desirable, as Berlin cannot boast of many. The interior of these churches has been fitted up in a very tasteful manner; they look very comfortable, and seem to be roomy enough to accommodate large congregations. All these churches are to be opened, as I understand, on the 3d of August, that being the birthday of our excellent monarch. The expenses are borne by the king himself out of his privy purse, so that the country has not been laid under any contribution whatsoever. — *J. H.*

In the Glyptothek, or sculpture gallery, at Munich, the rooms form a single range round the four sides of the inner court; and, independently of the works of art which each room contains, the walls are ornamented with sculptures, as far as possible in the particular character of these treasures. (*For. Quar. Rev.*, July, 1834.)

In the Pinacothek, or picture gallery, at Munich, the walls are to be hung with crimson or green watered damask, and the ceilings, which are all coved, profusely enriched with stucco work. There is to be a dado on the lower part of the walls of greyish marble, which will prevent any of the pictures from being hung within 3 or 4 ft. of the flooring. (*Ibid.*)

AMERICA.

Philadelphia, May 11. 1834. — Your *Architectural Magazine* will, I trust, render this country an essential service, by promoting the knowledge and taste for a science which has been but very little attended to out of our large cities. You express a wish for specimens of American architecture, but as we have nothing elegant except the buildings in Hulton's *Views in the United States*, I cannot promise you any, unless you would accept of one or two of our commodious barns; the number of which, in the well cultivated districts of Pennsylvania, strike the foreign traveller with some surprise. In the American edition of Willich's *Domestic Encyclopædia*, published in 1806, article Farmyard, you may see two plans of American barns, one of which was built and designed by Mr. West of Delaware co. (not Philadelphia co., as in the *Complete Grazier*), to whom the agriculture of Pennsylvania is under immense obligations for the improvements in it made and practised by him. He was brother to Benjamin West the painter. Other details of barns are given, which may be usefully adopted. — *J. M.*

Art. III. *Domestic Notices.*

ENGLAND.

Surgeons' College, Lincoln's Inn Fields. —The new front of this building is now progressing, being so far advanced that we can perceive the architect's intentions. To say that this refabrication will be greatly better than the original front is no very great praise, for that was as wretched a piece of design, if design it could be called, as was to be met with in the whole metropolis. The portico, and the house against which it was placed, did not present one idea in common; it always put us in mind of tying the living to the dead; exhibiting, as it did, the tamest cockney architecture brought into ridiculous and barbarous juxtaposition with one of the severest specimens of the Grecian Ionic. The glaring improprieties which disfigured it, as if intended to burlesque the *soi-disant* modern antique, will be now expunged; yet whether we shall be able to add any thing to this praise is exceedingly questionable. The windows on each side of the portico are not left absolutely naked, yet their mouldings are so exceedingly meagre, that they hardly show themselves at all. Richness in these parts was hardly admissible here; yet boldness was certainly desirable, in order to correspond with the character of the columns. Little danger was there that the portico would lose any of its importance by other parts being rendered somewhat conspicuous; but there is danger now that it will so far preponderate in effect over the rest, as to divide the whole into three distinct wholes, save that there will be no entrances except within the portico, and therefore we must suppose that the three form one building within. Yet it is not enough to know, we ought also to feel, that such is the case; the same sentiment of style being imparted to the whole. Whether the architect intends to add a pediment to the portico remains to be seen. We hope he will; for an advanced row of columns before a building, especially in the centre, has otherwise a rather awkward appearance, and does not look as if sufficiently connected with the part behind it.—*A Correspondent. London, Feb.* 1835.

ART. IV. *Retrospective Criticism.*

MR. Barlow's Pamphlet on the Strength of Materials. — In the review of this work, p. 83., your correspondent has fallen into an error in supposing practical men are without the means of knowing the strength of a story post, &c. The truth is, we are ignorant of the minimum, and therefore insert the maximum. We know from practice they are strong enough, but we cannot say confidently that they are too strong. The rules now extant are useful in determining the relative proportion of the different parts of a building, but great latitude must always be taken for the quality of the materials: a knot or shake in timber, or a concealed flaw or cold shut in iron, will cause a failure when in other respects every precaution had been taken. Not having Mr. Barlow's paper, I cannot follow the subject farther. I hope we shall shortly see such improvements in brickmaking as to produce a better substitute for story posts in many cases. This brings me to the old subject of the tax upon bricks. I hope you will excite your readers to petition for its repeal. After reading Mr. Aikin's lecture on pottery in the *Trans. of the Society of Arts*, every one must be convinced that no reduction of price can be attained by the use of machinery; it is therefore to the "Repale" we look for relief. Nothing bears harder on the building profession, and nothing tends more to retard general improvement, and the employment of the working classes.—*W. Thorold. Norwich, Feb.* 16. 1835.

ART. V. *Queries and Answers.*

THE Construction of Roman Walls. — "As the Romans carried their rampart upwards, they took off the pressure from the parts below, and gave a greater strength to the whole, by turning little arches in their work, and fixing the rest of the wall upon them. The holes at Sarum were all regular arches, at the distance of 5 or 6 ft. from each other." (*Whitaker's Hist. of Manches-*

ter, vol. i. p. 49.) I cannot understand the above passage. How holes in a wall, or arches through it, can take off the pressure from the parts below, and give a greater strength to the whole, I cannot conceive. The only effect that arches would have, that I can see, is that of throwing more weight on some parts than on others; and how this can contribute to the strength of the whole, I am quite at a loss to understand. Perhaps you, or some of your readers, can throw some light on the subject.—*Juvenis. London, Jan.* 15. 1835.

ART. VI. *Hints and Suggestions.*

DISSENTERS' Places of Worship.—I take the liberty of suggesting the propriety of giving, in an early Number of your *Arch. Mag.*, some plans and elevations of buildings suitable for dissenters' places of worship. By doing so you would render an important service to a meritorious portion of society, and render your valuable publication, if possible, still more practically useful than it already is. Among the various particulars to be considered in the constructing of buildings of this description, I would beg leave to submit the two following: — First, that the pulpit should be placed in a recess, not too deep, but sufficiently wide, and constructed upon scientific principles, so as to render the speaker's voice more audible to his congregation, and to enable him to preach with much greater ease to himself than he can according to the plan at present generally adopted; and, secondly, that the organ should be differently situated to what it now is. The organ is now generally placed in a conspicuous situation, where sight is more consulted than sound, as if gilded wood in imitation of pipes were of more consequence than fine tone and power. Could not the organ be so concealed under or on each side of the pulpit, and so enclosed, as to be made capable of being *swelled entire* into the chapel? The orchestra, of course, in this case, would be in front of the pulpit, and near the organ, and as the better part of music ascends, the psalmody by this means would be improved. — *A Subscriber. Rochdale, Feb.* 7. 1835.

Practical Carpentry. — A correspondent suggests, that a good mode of giving amateurs and occupiers of houses a knowledge of the details of building would be, to give from time to time working plans of particular parts of buildings, pointing out their uses, the origin and meaning of their ornaments, the principle of their construction, &c. He mentions internal and external doors, flooring, roofing, framing, and connecting timber for partitions, &c.; and he says, " let the writer of the articles imagine that he is instructing one who is ignorant of carpentry."

This suggestion is sent us by a correspondent, who says that he is now a common porter in Bond Street, London; that he was brought up to the business of a carpenter in the country, and that he wishes to get away from an employment that he utterly detests. He has sent a view of a table brought from India by Dr. Horsfield, which will appear in a future Number. His signature is *J. P. Old Bond Street, Nov.* 25. 1834.

Designs for Private Houses. — We take this opportunity of suggesting to professional readers the idea of sending us designs for private houses, both for streets, the suburbs of towns, and country places, which would cost from 500*l.* to 5000*l.* building. The designs should be most elaborately studied in every point of view, even to the adaptation of the furniture. Plans, elevations, sections, perspective views, and all the details, ought to be given, together with specifications and estimates, like those in our *Encyc. of Cottage, Farm, and Villa Architecture.* We recommend particular attention to the mode of heating the entrance lobbies, halls, and passages by flues, and to the fittings-up and furniture. Fenders and fireplaces we have never yet seen, in any house, architecturally adjusted to the chimney-piece and to each other.

THE
ARCHITECTURAL MAGAZINE.

MAY, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *On the Importance of Architecture.* By W. H.

The nearer any invention applies to the wants of mankind, and the more it contributes to their comforts and benefit, the greater becomes its claim to importance. In the present age, which would appear to have supplied, in its advancement, almost every thing requisite for actual necessities (not to speak of more refined desires), there is not a discovery but what becomes of general importance, should it render available to the public any point of utility, however simple. If, then, utility constitutes importance, architecture may be adduced as an example which, without tracing its merits so far back as its invention, presents a very fit subject for such a qualification. There is, probably, no consideration from which a more complete inference can be derived in this respect; for the reason that, from its simplicity of purpose, it is comprehended to that extent which at once prompts its proper appreciation. By simplicity is meant that plain and manifest usefulness, which appears evident, from the certainty that buildings could not be dispensed with; and which renders unnecessary any doubt or discussion on this head. Without alluding particularly to the uses of architecture, in the multitude of intentions that it answers, it is proposed to make some observations upon its importance, regarding it as a relative and progressive object of improvement.

In considering, in the first place, building as a trade, its magnitude is at once evident, from the numerous divisions and separate branches of business that are connected with it, or, more properly speaking, that form essential parts of it. This has, doubtless, arisen from the circumstance of a very great portion of the natural materials and ingredients which are used, not requiring any other labour than that of the workman; and which, consequently, renders one department sufficient for his attention. The articles of timber, stone, marble, and the like, undergo no previous preparation to make them appropriate for use, and their entire change and adaptation is left for the respective artisans.

There are, notwithstanding, numerous articles, as brick, tile, glass, and metal, the produce of manufacture; as well, also, as slate, lime, &c., which it forms no part of the builder's business to prepare. Other causes, however, may have led to the separation of the arts employed in building. It is requisite that many of the employments alluded to should proceed at the same time, for the proper execution of building; and this could not be performed with facility, unless by the cooperation of different, and yet practised, hands. The opportunity that is offered, both to workmen and master builders of small capital, in thus procuring a better livelihood, by pursuing only one department, to attain greater proficiency, also adds its reason for this plan. It is on these accounts that, in comparison with other trades, its importance is prominent; for, while it divides itself so as almost to embrace every necessary operation, and is thus the substance of many callings, it unites its powers in one isolated purpose, and is, as it were, independent. Latterly, many large capitalists have combined in their direction the whole circle of building operations, and their success seems to prove, that it is much to the convenience of the public; but it has been made a subject of serious consideration, whether the innovation upon long used habit has not had a bad effect upon both the interests and the performances of the trade.

Attached to importance follows respectability; and, as a necessary consequence thereto, it might have been left unnoticed, were it not for the purpose of mentioning one particular claim to this title. The society of freemasons, instituted, as the name implies, by a portion of the building trade, has obtained an extraordinary influence, and a character of national and even universal consequence. Originated for the humble projects of business; pursued for the instructive objects of art; patronised for the noble views of charity, this institution ranks as a distinguished instance of the country's munificence. If, in the present day, when open to others than practical men, and followed by those more searching after amusement and pleasure, than for any other study, it may have been slighted in its importance; it should be said, also, that the most illustrious and the most enlightened have availed themselves of its honour in endeavouring to honour it. It is not, however, the merit of its members, but the praise due to the society, which falls to the credit of the founders; and it is considered to be a strong proof of the real preeminence of building as a trade, and also of the general inclination to regard it as such.

The science of construction next offers itself for consideration, as forming a part of mechanics, the chief tendency to which is its importance in building. It is a wide term, but in the present application it may be defined as enforcing substantiality, and aiming at economy. The knowledge of the various strengths of materials, as well as of placing their powers to the utmost advantage, may be called, perhaps, a matter of calculation or of experience; but the science consists in the employment of such means, when their trial and proof must depend on the result of influences of a speculative, and often of a changeable, nature. It aims at economy, in the first place of room; or, to speak practically, by a strict limitation of the point of support, it encroaches as little as possible upon the area for occupation. It is an acknowledged excellence in construction, that it should work its ends with seeming facility. When, as in many cases, it occurs that large and ponderous weights of building, are verged upon bearings of comparatively small extent, it is to be attributed to the highest ability in the use of constructive resources, and is thus conducive to an admired point of architectural beauty, in addition to its utility. It is also economical in its more common meaning, and by the improvement and saving, in the prudent choice and apportionate quantity of materials, the architecture of recent date has been almost freed from the accusation, so often popularly advocated, of its extreme extravagance.

Lastly, Architecture as an art, or the more superficial study necessary to that part of it in which it is contemplated as a matter for ocular examination, is another point in pursuance of the subject. To prove it an art would be an evidence of its importance. Does the invention of a fertile imagination luxuriate in the production of novelty of forms and combinations? It may ennoble by originality, it may assist by variety; but it is not art, for it has not restriction. Does the calculating reason, in the coolness of argument, establish by principle and experience the beauty of forms from known influences? The labour is not lost; it conveys a mental delight: but it is not art, for it wants the stirring charm of creation. Is, then, the definition of art of such difficulty? Let the first candidate, invention, curb the gift of flight to the views suggested by reason, and let the strictness of the latter expand to the invitation of such a union; and it will at once exhibit a representation of the application of art to architecture. The present question is, however, more concerning its importance, with reference to other arts. In this discussion there appears a " divided duty;" for while, by its practical connection with trade, it is placed in conjunction with what are termed inferior arts; on the other hand, by its alliance with design, it has considerable pretensions as a fine art. A conviction of its importance as an inferior art has been endeavoured to be expressed in the previous allusion to the trade of building, but it remains to place it in a proper light with reference comparatively to the fine arts. The perfection of the arts of painting, sculpture, or music, is inimitable. There has not been a second

Raphael, nor an Angelo, nor a Handel; but it would be within the limits of an architectural achievement to erect another Athens, as far as imitation would allow; although it might be in vain to seek for the sculpture of Phidias. Not to trespass on a subject which has been already very ably expounded in several parts of this work, the writer is of opinion, from the reason he has stated, that its claims as a fine art can only be said to be of moderate importance. Humble acquirements in it as a profession meet with greater success than in any of the others; and this arises from the same cause, that the practice of it may be reduced almost to a system of imitation from precedents; when, in other arts, mediocrity is of little avail.

The importance of architecture in a national point of view, or, in other words, the importance attached by a nation to its architecture, as compared with that of others, as well as that it derives by it, becomes a topic from which many considerations present themselves. The public purse is never more unsparingly and cheerfully opened than when for any object which is to enhance the dignity of the state, the dedications of the national religion, or the pride of the people's power; and these subjects are never more constantly called into mind than by public buildings. The contemplation of a palace, a church, an hospital, or a prison, draws forth feelings doubtless much excited by the particular purposes for which the buildings which call them forth were erected; but while this may be the first suggestion to the mind, it is the architecture and the vast property, in a manner, deposited in them (for whatever purpose it may be), which gives rise to their importance and extent. While the motive adds to the national honour, the execution of it contributes to the national pride; and, as it should, it is to be hoped that it does convey a gratification individually from this cause alone. That it is a source, although a silent one, of national pleasure, is evidently the case, by the grief that is always manifested by the accidental destruction of any admired erection. Of course, in private buildings, the loss of property is sufficient cause of sorrow; but when the many sufferers make the loss light and trivial, it can only be the store set, in fact, upon an ornament, the being deprived of which has so much influence. If, then, architecture so widely and popularly diffuses its impressions, how much more would its importance be increased if more generally studied, or if the beauties of the art were more frequently presented to the public eye? The study of beauty becomes more exalted when known by intrinsic merit, rather than by comparison with deformity. As a point of national importance, instance ancient Rome. A succession of encroaching wars abroad, and continued arbitrary government and democratic revolt at home, form a history which is painful to dwell on, and which does away with the regret at such an "empire's wreck;" but when, by the remains it has left, a glimmer only of its magnificence is preserved, which outshines the light of any existing power, it is their pursuit of architecture which insists upon the nation's importance; which pardons in our imagination all historical blemishes; and which confirms that nation in its enviable distinction.

To collect together these brief remarks, on the consideration of the importance of architecture, the subject has been glanced at as it has cursorily occurred; as a trade, for its magnitude; as a science, for its utility; and, as an art, for its comparative merit and popular character; with the intention rather to suggest or apply admitted facts, than to pronounce opinions.

London, March 12. 1835.

ART. II. *On the comparative Merits of Architects and Amateurs, with regard to Competition Plans.* By CANDIDUS.

YOUR correspondent, Mr. Sambell (p. 143.), appears, very unintentionally, to have paid a compliment to a class of persons whom he certainly did not intend to recommend to favour. What reasons he has for imagining that it is by any means a practice with amateurs, or non-professional architects, to send in competition designs, I know not. He has not mentioned a single instance, much less has he pointed out one where any such design has been adopted. Nevertheless, I do not pretend to dispute the fact, although I must be allowed to think it rests upon a few accidental cases, otherwise it would be pretty well known. But to come to the compliment itself. By what Mr. Sambell also says, he leaves it to be inferred, that such persons are apt to show more taste and ability in composition than regularly educated men; which is not saying much for the talents of the latter, if they suffer themselves to be excelled by those whom they, of course, consider mere novices, dabblers, intruders, and interlopers in the profession.

Unless the amateur and "architectural draughtsman" give evidence of greater taste in their designs than the "constructive architect," there can surely be very little reason for the latter to apprehend any rivalry from the former, since he must, or, at least, he ought, to know, far better than any non-practical man, how to consult both correct judgment and taste at the same time. If the "constructive architect" be no match for "the amateur" here, he must be allowed to be as deficient as the latter, though for a different reason; executive skill being on one side, invention and taste on the other. Still it may be argued, that the latter qualities are by no means to be put into competition with what is more indispensable, because a building which exhibits no taste at all, or, what is worse, which only shocks by its bad taste, may answer every useful purpose; whereas the finest design will either be of no avail if found impracticable, or will prove any thing but satisfactory, if executed so as not to endure. Be it so; let us even say that taste and invention are trifles, what any person can easily acquire by attending to such matters. Then arises a somewhat formidable question: — Such being the case, how happens it that those who are masters of construction, the more important and diffcult part of their profession, do not care to render themselves equal proficients in its *æsthetic* or ornamental department? Wherefore do not they foil the amateur and the "architectural draughtsman" at their own game, by applying themselves to the same studies, with a far better basis for them already at their command?

This is a question I leave to be answered by those whom it most concerns; and by so doing shall escape the odium of formally and pointedly saying what would be the more offensive in proportion as it was correct. I prefer following up the preceding question by another, which is, — If genius, taste, feeling, imagination, have any thing to do with architecture: if, in short, architecture be an art worthy of the name of one, and something more than mere routine study and the knowledge of building, why should not those who devote themselves to it *con amore*, who admire it chiefly as an art, be entitled to as much respect as those who pursue it as their calling, and for the sake of the lucrative emoluments it bestows? The former class are at least fully as disinterested as the latter; they are also, perhaps, to the full as likely to take up the pursuit with fresher views, and — as all art should be, with a generous relish and delight.

If architecture, I repeat, be really an art, like every other, it must require some degree of affection and intuitive feeling in its professors, as well as study. Without such aid, study will accomplish but little, because it will be little more than mechanical drudgery, encouraged by no nobler stimulus than that of interest alone. I admit, that he who so applies himself, may be respectable as a tradesman, should he be prosperous; likewise, that no one will call his respectability in question: but how he can lay claim to the title of artist is, to me, particularly puzzling. While thus throwing out my opinions, I do not insist upon their being adopted without examination; far from it; nay, I shall not care should they be soundly attacked, as, I trust, I am always open to conviction, should I be proved to be in the wrong.

In my opinion, it does not argue much liberality to decry amateurs merely because they are extra-professional. There may certainly be stupid, ignorant, tasteless amateurs, as well as others; still, it does not exactly follow, that a man must be a blockhead in an art, merely because he is an amateur in it. Supposing him to possess as fine and original ideas as the professional man; as exact an eye for proportion, and for all the harmonies of which architecture is susceptible; as lively a fancy, and as chastened a taste; together with a mind as studious and as liberal; so far, at least, he is entitled to quite as much admiration. Should he prove superior in these respects, his *contraband* accomplishments may, in the eyes of the unprejudiced, look like superior desert.

In none of the other liberal arts is it considered a stigma that a man should be autodidact; that, for his proficiency, he should be more indebted to his own instinctive love of the pursuit, and his own exertions, than to the regular instructions of others; neither has this always been the case in regard to architecture itself. Witness Raffaelle, Michael Angelo, and Burlington. these are persons the world is pleased to admire; I do not exactly say that I myself greatly admire their architectural taste; and yet, did any of them serve a regular apprenticeship? Many of the Italian architects were so only occasionally and incidentally, being quite as much known as sculptors or painters. Count Alfieri, who erected the Royal Opera-house at Turin, esteemed a *chef-d'œuvre* in its day, was educated for the legal profession, and practised some time at the bar; and a living English architect (Blore) was known for many years as an antiquarian and architectural "draughtsman" only, before he applied himself practically to architecture. Yet, wherefore should I produce such instances, when Perrault alone, and the colonnade of the Louvre, afford a triumphant refutation of all the sneers that can be levelled against amateurship in architecture.

For my own part, I should think that the *chances*, if I can here properly apply that expression, are greater in favour of talent being possessed by one who is self-taught, than by him who is merely trained. The former, it may be imagined, applies himself to his pursuit *con amore*, because he is attracted by it, and because he delights in it; whereas the other may be put to it without any choice whatever of his own, merely because it agrees with the inclination or convenience of his friends; or for that other reason hinted at by Martial in one of his most biting epigrams. After-years may undoubtedly bring along with them a genuine relish for the art, a relish which only the consciousness of talent can bestow. Yet such is far from being invariably, or even generally, the case; otherwise we should not behold so many plodders in the profession; men who, when they have an opportunity of putting two ideas together, sparingly content themselves with the fraction of even one; pilferers from those who have nothing of their own to be pilfered; copiers of those who have existed by copying others.

To me, again, it appears strange policy, if no worse, on the part of professional men, to seek in any way to discourage or discountenance amateurship in architecture, since by so doing they are likely to reduce the already far too limited number of those who are qualified to take any real interest in the art, or capable of appreciating its beauties. Were it not for the class of amateurs, in all probability we should never have possessed more than technical and elementary works on architecture; which, however indispensable in themselves, as giving the initiatory precepts and rudiments of the art, have no more literary pretension or interest than so many grammars. For historical elucidation, for disquisition, for criticism, we are far more indebted to amateur than to professional writers. To mention but one instance, certainly a striking one, the recently published work of the late Thomas Hope is a richer contribution to the literature of the art than almost any thing which has ever proceeded from a professional pen in this country. It rarely happens, in this country, at least, when professional men publish either their own designs or those of others, that they enter into any remarks of any kind, except occasionally a few vague ones, by way of preface, and which would be almost as suitable for any other work as for their own. This is the more unaccountable, because for want of explanation as well as of description, in regard to such particulars as are not shown in the plates themselves, their utility as studies is greatly diminished, and a great deal is left to conjecture. Such architects, instead of endeavouring to fix attention upon their designs, by especially pointing out what is most liable to escape notice, and also by causing the mind to dwell upon the subject, and to take into consideration every particular, leave others to make whatever they can of that which is shown to them. Thus they neither do justice to themselves, nor to any other party. Surely an architect must be able to comprehend his own views and ideas; and to explain his motives, if he has any, much better than any one else; and, although it may be a very great forbearance, it is not of the most laudable description, when he omits a fair opportunity of justifying himself whenever he has been obliged to act contrary to his own taste, and to follow that forced upon him, as not unfrequently happens, by others.

Although some of them utter sad nonsense, amateurs who criticise works of architecture seem to be regarded with less jealousy than those who venture to take up their pencil and drawing-board. There is no outcry against those who, like Forsyth, Beckford, and countless others, pretend to judge of the art without having practised it; and yet, it is not easy to say wherefore such should be the case. If a bungling amateur, utterly unqualified for such a task, should engage to execute a building, and produce a mere failure, so far from that giving any offence to the profession at large, whatever it may do to the parties whose concern it is, it rather serves to set in the strongest possible light the indispensable necessity of engaging only those who are perfectly well versed in the art of construction as well as in that of design; whereas an architectural critic, from not thoroughly understanding the subject, if he judges on false principles, and praises that which he ought to blame, does a serious injury to the profession: he misleads those who prefer following the dictum of others to judging for themselves; who, alas! are but too numerous; and does his best to vitiate the public taste, instead of improving it. The influence of amateur critics in injuring architecture, and, of course, its professors, is so much greater than that of amateur architects, that there is some reason for presuming that it is rather the success than the failure of the latter which excites so much professional dislike towards them.

Admitting a case to occur, that a design sent in by an amateur should be selected, in preference to several others, as superior to them in all that can be shown upon paper; it would, undoubtedly, be a gross imposition in such a person if, knowing himself to be ignorant of the art of construction, he were to undertake to superintend the erection of the building. Indeed, I can hardly imagine that any man would so grossly commit himself, when, from the excellence of his design, he must know enough to be fully aware beforehand of his own incompetence to the task; and that much greater practical knowledge than he possesses is indispensably requisite for carrying the work into execution. On the other hand, I see nothing either disreputable or objectionable, were the author of such a design to state, that he did not feel himself prepared to engage in the actual execution of it, without the assistance of a colleague. He might very reasonably be allowed to say, “ As far as regards the design, I have met your wishes, and have succeeded in producing what you require, but I do not engage to proceed any farther alone. Either associate an able practical man with me, or intrust the execution of my ideas entirely to some other person.”

This, it will be said, is carrying the principle of the division of labour to a most absurd length. Absurd it may be; but of its absurdity I have yet to be convinced. Unless it can be shown that practical science and superior taste uniformly go hand in hand, what absurdity could there be in securing *both*, although because they did not happen to be united in the same individual? Is it not more probable that the practical man would operate as a salutary check upon the man of fancy, and restrain him from mere vagaries? Or will it be maintained, that the present system gives us all we can desire, the happiest invention and the most refined taste, accompanied with the greatest scientific skill?

Art. III. *Further Remarks on Palladio.* By Candidus.

I ought, by way of penance, to be compelled to point out, one by one, all the manifold beauties of Andrea Palladio, for I now find that the opinion I before expressed of him runs quite counter to that of the celebrated Thomas Hope, who, in his posthumous and just published *Historical Essay*, pays a compliment to the genius of the Vicentine architect. How he could reconcile it to his critical conscience to utter what seems entirely at variance with his admiration of Grecian, and his unfavourable opinion of Roman architecture; particularly after decrying Michael Angelo for indulging in the very same caprices as we find in the works of Palladio, I know not, especially as those of the latter are not redeemed by the grandeur observable in the buildings of the former. By no means am I disposed to set myself up as an admirer of Michael Angelo's architectural style and taste, yet of the two he surely deserves to be criticised with less asperity, because architecture was with him only a secondary pursuit, his application being chiefly devoted to painting and sculpture.

Mr. Hope does not seem to have been alive to the necessity of supporting his opinion of Palladio by argument or reasoning; yet to have done so would hardly have been labour thrown away, because not Forsyth alone, but all the other admirers of Palladio, limit themselves to general and indefinite commendations, without particularising any one individual beauty or merit. It is strange, indeed, that excellence should not be worthy of a little examination, and towards such as myself it would be charity to enter into some investigation of it, because our eyes might then be opened to the perception of charms now completely hidden from them. I say "our eyes," for I do not happen to be exactly companionless in my blindness; in his *Treatise on Architecture*, Hosking shows himself nearly to the full as obtuse; and I have heard another individual, one of the most tasteful and enthusiastically studious architects among those now living, express himself, in regard to Palladio, in terms little short of execration.

Woods, however, is inclined to admire him, although it is difficult to say why; not merely because he too is exceedingly shy of discussing particulars, notwithstanding that he ventures to hint at many blemishes, but also because his opinions relative to Palladio by no means tally with the censures he has passed upon others. He, I find, perceives more to approve of than to reprobate in the façade of the Palazzo Valmarana at Vicenza, the very building, by the by, which I quoted as an instance of most horrible deformity. (See p. 153.) In addition to the defects and inconsistencies there mentioned, it may now be noted, that in the ugly patches tacked to the ends of the front, as if to eke it out, there is an additional floor; that the windows here are narrower and smaller than those in the other intercolumns, and that there are mezzanines in the entablature, not confined to the frieze, but actually cutting through the architrave also! Altogether, these two narrow slices have nothing whatever in conformity with the rest of the front, but look as if belonging to other buildings commenced on each side of it. Even admitting, with Woods, that, "in other respects, the proportions are excellent," that seems to be a poor apology for so much positive deformity and bad taste. If, taken as a whole, it be disagreeable and full of glaring errors, what avails it to say that there are parts that may be excepted from censure? Or, is it not tantamount to an acknowledgment, that the architect had so little discernment as to commit errors so gross that even his admirers can offer no defence for them; solecisms in taste and against propriety, which almost any tyro in the art would now be ashamed of?

If we are content to put up with detached and piecemeal beauties, we may be satisfied with any thing, for that must be a most vile production, indeed, in which every one of the parts, taken merely as parts, is absolutely bad. Architects so very rarely attempt what they can claim exclusively as their own, that it is chiefly by the general conception and treatment of their subject, by the adjustment and collocation of the various divisions and subdivisions, that they can show any superior taste or originality. Their columns and entablatures are little more than so many formulæ, the property of no one in particular, and to be appropriated only by a felicitous combination with all the rest. What is it but the admixture of his pigments, and their collocation on the canvass, that distinguishes the able colourist from the dauber? The palette of the one is just as richly furnished as that of the other. What is it except his power of masterly collocation and combination, that constitutes a great musical composer? His gamut is just the same as that of others; he has no new elements of sound; his magic lies in the mastery with which he elicits, from those common to all, new and striking combinations peculiarly his own. What, again is it, save the same power, that distinguishes a noble poetical diction and style from an ordinary one? Is it not precisely that harmonious and eloquent disposition and structure, which any other collocation of the very same words would fail to produce?

It is arrant stuff, then, far worse than sheer nonsense, because more pernicious, to talk of the proportions of individual parts, if there be no aggregate proportion — no proportion, as regards feeling and taste, in the arrangement of the parts themselves. The best that can be said of works so constituted is, that they have shaped out the material of which others may avail themselves with better success. Too minute criticism, which looks exclusively to the separate items of a design, without at all attending to their result or gross amount, has been one great bane of the art. It fosters a narrow petty taste, an attention to insulated particulars or circumstances, with very little consideration of, or regard to, the whole.

By no means would I be understood as recommending the study of general effect and proportion alone; quite the contrary: since, in my opinion, too much care cannot be bestowed upon detail; but then it must be as detail, as the finishing touches and working up of what is ably conceived. No minutiæ should be suffered to escape attention; nothing should be slurred over, as we generally find to be the case; yet, as a first and most important step, it is requisite that the elements of a superior design should be established in the leading ideas. So very far is general propriety or beauty from excusing inattention to individual merits, that, unless every single feature and its detail be appropriately finished up, the *ensemble* will become a mere sketch, or a crude unsatisfactory production, if considered in any other light: and it surely need not here be observed, that when we come to execute in such expensive materials as stone or brick, something more than a sketch, however clever it may be, ought to be looked for. I deem it all the more necessary to insist upon this, because, although even the authority of Palladio would not now persuade many to fall into the grosser errors with which his buildings and designs abound, architects of the present day too readily content themselves with merely avoiding radical vices of that kind. They certainly commit fewer solecisms, but it is not quite so certain that they give us a greater number of positive beauties. If their orders are better, because copied from the antique, it seldom happens that we find much else to admire, or any thing very felicitous that is peculiarly their own.

ART. IV. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. JAMES ANDERSON.

(*Continued from* p. 159.)

GOTHIC Architecture, continued. — In continuing to trace the progress of that gradual developement of ideas by which our Gothic architects at length acquired the power of rearing those stupendous structures which will excite the admiration of future ages, we proceed to remark, that when our artists had grasped the idea of connecting columns together by means of arches, and of arranging them in rows in opposite directions, they had made one great step towards the attainment of their wishes; but still much remained to be done. They had now, it is true, acquired the power of supporting the roof upon stone pillars placed at a considerable distance from each other; but, as the whole building above would thus be divided into square compartments, open at top, these apertures could only be closed by a roof supported by beams of wood resting upon these walls, so as to be still liable to be consumed by fire; the very circumstance they wished chiefly to guard against. Soon, however, they would perceive that, by throwing an arch from each of these columns to that in the opposite angle diagonally across the square, these arches would all meet in the centre, and thus admit of the whole of the apertures above being completely closed with stone. If an arch of the same kind was reared in the opposite side of the same pillar, it is plain it would be equally poised on all sides, so as to have nothing else to support but the weight pressing upon it in a perpendicular direction only. By gradual steps like these our artists were brought at length to form an idea of the possibility of supporting a roof consisting entirely of stone, upon pillars of the same materials placed at considerable distances from each other; and at the same time of giving to that roof an elegance of form and symmetrical arrangement that would prove generally pleasing. But still they were far from having attained the ultimate object of their wishes.

We are often put in mind, when we attempt to trace the progress of any human invention, that man is an imitative animal, and that he seldom has recourse to his inventive powers, unless when necessity compels him to do it. This truth was verified in the artists who demand our present notice, as well as all the others whose progress we shall have incidentally to investigate. They found that the semicircle was the form of arch almost exclusively adopted by the Greeks and Romans; and they naturally imitated that form of arch at the first, as their predecessors had done, without having qualified themselves fully to appreciate either the comparative excellencies or defects of that form of arch when applied to particular purposes. To this origin we may trace the attachment that our artists discovered to the semicircular arch, which is observable in the earliest specimens they exhibited in the first rude attempts they made to introduce their new system of architecture; for the semicircular arch is now admitted to be an undoubted criterion of the oldest Gothic structures. And as all the structures of this kind were, of necessity, accompanied with a heavy clumsiness of proportions, which a superior degree of knowledge taught the more enlightened artists of an after period how to lay aside, this circumstance has given rise to the distinction of two styles of Gothic architecture, one of which has been called the *old* Gothic, the other the *modern* Gothic, or sometimes the Saracenic, from a notion that it was introduced into Europe by the Saracens. The truth, however, is, that these are both the same system of architecture, and were introduced by the same artists; the last differing from the first only by those improvements being introduced, which a more perfect knowledge of the principles of their art enabled them gradually to discover, in consequence of long experience and a continued attention to every particular concerning it. That these improvements depended entirely upon a more perfect knowledge of the powers of the masonic arch, and the uses to which it could be applied according to the exigencies of the case, I shall hope to be able to prove in the most satisfactory manner to every one who shall have the patience to attend to the few popular illustrations that follow, tending to explain the general principles of this little understood, though very important branch of masonry; without being obliged to have recourse to the intricacies of mathematical demonstration, which few of my readers may be supposed capable or desirous of following.

The fundamental principle of what we call a stone arch, by which phrase (to avoid the ambiguity that the name might suggest) I beg to be understood in this place to mean " any aperture in a wall or other building which is closed at top by means of stones consisting of separate pieces, so applied as to preserve the continuity between the opposite sides of the aperture;" — the fundamental principle, then, of such an arch, I beg leave to say, is the most simple thing that can be conceived. It consists in nothing more than giving the stones such a shape, as that, by means of their own natural gravity tending to make them all descend towards the surface of the earth, they mutually shall so act upon each other as to keep the whole firm and steady in its place; insomuch that, if the pressure be equal on every point of the arch, so as not to admit of any one stone in it being pushed *backward* out of its place, the greater the pressure that is made upon it from above, the firmer the arch must be; provided always that the foundation on which it stands be firm, and the materials of which it consists so solid as not to admit of being crushed to pieces.

But although the fundamental principle of the masonic arch be thus simple and easy to be comprehended; yet in the mode of applying it for the purposes of common life, to individual cases as they successively arise, such amazing diversities occur, as to make it a matter of no small intricacy to those who have not particularly studied the subject, to perceive the propriety of adopting sometimes one form of an arch, and sometimes another, as the most proper for effecting the particular purpose in view: it will therefore be proper for me here to throw out a few hints on that head, with a view to enable the uninformed reader to form some discriminative notions respecting it.

If an arch consisting of a very small section of a large circle were thrown over an opening, so as to approximate to the form of a straight horizontal line, it is obvious, that the weight of every stone in that arch would press directly downwards, and would have only a very small part of that weight supported by any of the stones adjoining to it. This united pressure, then, of the whole, would have a uniform tendency to push the stones at either end of that segment of the arch directly outward from each other; and, of course, unless a strong resistance were made at both ends, directly counteracting that pressure, the abutments would be forced asunder, and the arch would fall down. Hence it is obvious, that, of all the forms of an arch that can be devised, this is among the least proper to be chosen for connecting together two slender pillars; for, although these might be able to support a very considerable weight when applied on the top of the column, and pressing perpendicularly upon it; yet, when that pressure is applied laterally, the pillars have not strength to resist it, and they must, of course, be made to yield to it.

You may form some idea of the force of the relative actions and reactions, in this case, by the following familiar illustration. Take between your two hands ten or a dozen volumes of a book uniformly bound, with their backs all undermost; if your hands be pressed firmly enough towards each other, they may be kept in that position as long as you please without falling; but if the pressure be so great as to force your hands in the smallest degree asunder, the whole will fall directly to the ground, even if your hands had been supported by some object that could bear the weight. This, it must be confessed, is but an inaccurate illustration, yet it may serve to convey a pretty clear idea of the necessity of having abutments in this case that are immovably firm, so as to resist giving way in the smallest degree to the pressure outwards.

Let us now suppose that, instead of the flat segment of a circle, as before, the same opening should be closed by means of a semicircular arch; it is very evident, that in this case the stones nearest the pillar from which the arches spring, will press directly downwards with their whole weight upon the pillar, and that the weight of those above them, in like manner, is supported in a great measure by those below them; insomuch that, if all supports in the middle were taken away after the half of the semicircle was built, they would still remain unmoved in their place; and when you come at last to close the arch, the two stones on either side of the keystone have a tendency to fall upon each other, and the keystone, by preventing that falling, tends to keep them in their places; so that the pressure upon the pillars, in this case, is much less forcible outwards than in the former, having a much greater tendency downward than outward.

We are thus led to perceive that, in proportion as the arch assumes a higher form, the pressure outward must be diminished, while the pressure downward upon the pillars is augmented: whatever arch, therefore, rises higher than a semicircle, ought to be preferred to one that is lower than it, where the pillar that supports it is of a slender form, and, of course, incapable of sustaining a powerful lateral pressure; and the higher such an arch is, the better it must be adapted for this purpose when considered simply under this point of view. But no single arch that can be devised (the catenarian arch alone excepted, and against this form of an arch for the purpose here required, if our artists were acquainted with it, they would very soon have discovered such valid objections as must soon have made them reject it) can be made to rise to such a height above a column as two small segments of a very large circle may be made to do by gradually approaching towards each other till they close at the top. Hence it follows, that, of all the forms of an arch that could be devised, where the principal object in view is to diminish the lateral pressure from a pillar, and convert it into a perpendicular pressure, more especially where the weight to be supported above is inconsiderable, that of the segment of two large circles is undoubtedly the best. Such was the reasoning of our artists, and such, no doubt, were the considerations which induced them with one accord to abandon the form of the semicircular arch which they had at the beginning incautiously followed, and to adopt that form of arch which so peculiarly characterises all the more perfect productions of this sagacious fraternity. But there were other reasons, which we shall afterwards discover, that still more powerfully operated in establishing the necessity of this choice.

That the reader, however, may be able to satisfy himself, by means of a very simple illustrative experiment, how far the circumstance just now explained ought to weigh in determining the choice of these artists, I shall beg leave once more to refer him to his books. Let him pile up a sufficient number of volumes in two heaps opposite to each other, and at some distance asunder, with their backs regularly towards each other. Let him raise them to a considerable height, both heaps at the same time inclining a little inwards. They will gradually approach, and at last will close, so as to touch each other at the top. These form no unapt representation of two segments of arches supporting each other. Both of these would fall down were it not for the support that the other affords. But what is the degree of force that must thus be applied to keep them from falling inwards; in other words, what is the degree of lateral pressure, in this case, compared to the perpendicular? Let a very tender substance be applied between them where they fall together at the top; it will sustain the pressure of both without being squeezed. Put your finger between the two; the pressure is so slight that you can scarcely perceive it. Thus have we got rid almost entirely of the lateral pressure, which was so powerful in the first instance adduced; instead of which, the perpendicular pressure is greatly augmented, and with it the power of the pillar itself to resist lateral pressure of every kind, as we shall afterwards see. Lift up the books now, and you will perceive with what a great weight they press perpendicularly upon the column. It would be unnecessary, I presume, to add any farther illustrations on this branch of the subject.

When two arches of the same sort are sprung from the top of the same pillar in opposite directions, they are such an exact counterpoise for each other, as to press upon the column in a perpendicular direction only; so that under these circumstances no lateral pressure can be experienced. In this manner a row of columns of any length may be made to support a roof, no one of which columns can have the smallest tendency to be pushed out of its place; or an indefinite number of contiguous squares of the same dimensions may be thus closed without occasioning the smallest derangement to the columns by inequality of pressure upon them. But that row of columns, however long, must at length come to an end; and the column at that end, having to support only one arch instead of two, must have its equilibrium destroyed; so that the pressure outwards would be such as inevitably to overturn it, unless the pillar be of such dimensions as that the degree of lateral pressure it experiences shall not be sufficient to overcome the weight of the materials of which the pillar consists. There was a necessity, therefore, for augmenting the size of the terminating pillar greatly beyond the dimensions of those that were required in the inside. This circumstance gave rise to the external abutments on the outside of Gothic churches, which form such an essential constituent in that style of architecture.

It can scarcely be necessary for me to observe, that a row of semicircular arches, or those even of a flatter form, would balance and abut each other equally well as those of a higher form, upon the top of each column in the row, were it not proper to remark, that there would have been a necessity of having the external abutments much more massy, and, of course, more clumsy and inelegant in arches of a flat form, than where they were raised to a greater height. It was not, therefore, without reason, that all those structures in which the semicircular arch was adopted had thicker columns and more clumsy abutments, than were necessary after they abandoned that form of arch; and we shall soon have occasion to observe that this circumstance would have had a tendency to deprive them of some elegancies and conveniencies which they were studious to obtain.

After our artists had advanced thus far, it is very evident that they had it in their power to cover with a stone roof an area of any assignable extent; for, by increasing the number of rows of columns, it might be made to extend to any distance in length or in width that should be required: but, as all the light must in this case have been introduced at the *end* of each row of columns only, and as all the columns must have stood at an equal distance from each other, the central part of the building, which they wished to be the most superb and conspicuous, would have been the most gloomy and obscure. This form of a building, therefore, though it had been on some occasions resorted to by the Romans, could by no means accord with the ideas of our more aspiring architects. They endeavoured to find out a way of obviating this difficulty: nor were they foiled in this, more than in many other of their bold and ambitious attempts.

They would easily perceive, after a moment's reflection, that if the rows of columns should be placed at a greater distance from each other in the middle of the building than elsewhere, the free space of the central area would be thereby proportionally augmented; and thus would one of the objects they had in view be obtained; and as the windows could also, in this case, be made larger there *at each end* than elsewhere, the other purpose would also be in *some measure* attained. But, in contriving how this enlargement of the central area could be effected, difficulties would occur that could not be easily removed.

We have just had occasion to observe, that, whenever the row of equal arches is interrupted, the pressure becomes unequal upon the column where such break takes place, and its equilibrium is thereby destroyed. To keep it from being thus deranged, our artists found it necessary to erect abutments on the *outside*. Abutments would be equally necessary in the *inside*, where an inequality respecting the superincumbent pressure took place: but abutments similar to those that might be readily adopted on the outside could not possibly be admitted on the inside, without destroying the whole of the effect at which they aimed. This idea must then, of course, be rejected.

Reflecting upon this subject, it at length occurred to these acute artists, that it was by no means necessary they should confine themselves to that *form* of an abutment which had first occurred to them, and to which they had hitherto adhered; viz. that of making an additional wall on the outside of the column. This wall, it was obvious, could add strength to the column in no other way than by depositing the weight of the materials of which such abutment consists contiguous to the column, all of which weight must be removed before the column can be suffered to stir from its place. It is further obvious, that as the pressure is chiefly at the *top* of the pillar, it can only be the weight of the materials which constitute the *higher* part of the abutment that can tend to give stability to the pillar; all the materials which constitute the base of the abutment being of no other use than to serve as a support to bear to a proper height the materials that are alone of real essential service in this case. This idea could no sooner occur, than it must operate as a flash of lightning upon the minds of our acute observers, because it opened a wide field of most sublime speculations for their enlarged understandings to operate upon. But let us not be hurried forward too fast; let us follow them with attention, and carefully trace the steps by which these sublime ideas were gradually developed.

Let us suppose, for the sake of illustration, that the lateral pressure upon the top of a pillar, tending to push it out of its true position, is equal to ten hundred weight, and that a wall is reared as an abutment on the outside of that pillar to the same height with the pillar itself, and no more, for the purpose of resisting that lateral pressure. Let us farther suppose, that the materials of which this wall consists are equal to one hundred weight for every foot in height and in length. As the pressure is merely upon the top of the column, let us farther suppose, that the whole ten hundred weight will be required upon the first foot of the top of the abutment before the pillar could be properly secured. Under these circumstances it is plain that the wall of abutment must be ten feet in length to give the security required. But if the pillar be ten feet in height, the abutment must be so also; and, of course, the weight of the whole materials in the abutment will be ten times ten hundred, though only ten hundred weight is of any use. Here is a pure waste of nine tenths of the materials when they are employed in this form.

Let us now suppose that, in consequence of the discovery they had made, they might reason thus. If one foot of the abutment, that gives one hundred weight of the gravity required, be suffered to remain entire, take the next stone from the top of the wall, which is one foot in length, and place it upon the top of the former, this makes two hundred weight; the next stone applied in the same manner makes three; and so on, till the whole ten are piled one upon the other; when the weight of the whole is equal to ten hundred weight; the precise quantity that was wanted to give the pillar its necessary stability. The remaining part of the abutment may now be taken away as useless. These materials alone will now be sufficient to secure eight other pillars, by being applied after the same manner.

Here, then, we discover the origin and uses of the pinnacle, which, it is to be hoped, will be no longer vilified as a mere useless ornament; but will be considered as a very essential part of the building, tending no less to give stability to the pile than elegance to the structure. Hence also the origin of a phrase, *pondus addit robur,* which was almost proverbial among philosophers of all sects after the revival of letters in Europe. We shall by and by have occasion to point out the farther uses of this indispensable part of the building. Had it been necessary to resist only the lateral pressure of the arch directly *outwards,* the purpose would have been answered by leaving the whole weight upon the abutment itself only; but, as the *diagonal* pressure also must be resisted, it became necessary to lay some part of that weight upon the top of the column itself; and, as they were thus enabled to give a wider base to the pinnacle, and, of course, less height to produce the same effect, this contrivance was naturally adopted; especially as it admitted at the same time of their giving a greater variety of form and proportions to these pinnacles than would otherwise have been practicable.

It was but a step farther, — and our artists seldom stopped short in the course of their investigations; — it was but a small step beyond the limits they had now attained, for them to ask, what was the necessity for having any abutment at all? Would not the column be equally firm and secure if, instead of having ten hundred weight, or even a greater weight if necessary, applied on the outside of it, the same weight were placed upon the top of the column itself? No answer to this question, but in the affirmative, can be given. The more it is considered, the more certain it appears. And now the film is removed from their eyes: the grand desideratum which had so long arrested their progress is now obtained. Let us, say they, instead of employing abutments in the *inside* of the church for securing the pillars, where they would prove an intolerable incumbrance, let us suffer these columns to retain their primitive shape; and let us only load them at top to give them the necessary stability. Let us raise a pinnacle above them to the necessary height. But what is the use, say they again, of a pinnacle at all? Is it not possible to load the column sufficiently, without making that load assume the form of an upright spire? Nothing is more easy. Let us raise a solid wall to such a height as we shall find necessary, above the arches that connect the pillars on each side the nave of the church; and, as in that case the whole weight of that wall must ultimately rest on that row of pillars, we can thus give them the pressure required, without either encumbering the church in the inside with abutments, or loading it with pinnacles on the outside. This idea no sooner occurred than its utility was instantly recognised, and the practice, of course, adopted.

When the mind broods long over a favourite subject, it gradually expands; every step in its progress confers upon it additional energy, and fresh acquisition of powers. By such a progress they would soon perceive that, if a wall could be raised above those pillars, nothing could prevent them from putting windows into that wall; and, if a roof could be thrown over the nave above those windows, they would then have the body of the church perfectly illuminated, which was the great desideratum that had hitherto stopped their progress. To support this roof, nothing else is required than to spring a set of higher arches from the pinnacle that rises above each column (in other words, from the side wall that these columns support), so as to close the middle area after the same manner as those of the side aisles had been already closed. One only difficulty stood in the way of this improvement, and this also they soon contrived to remove. It became necessary to have an abutment to resist the lateral pressure of these higher arches; and some method must be contrived to effect this. Probably the first idea that would occur on this head would be that of adopting pinnacles; but against this plan several objections would occur. Considering the small base on which alone they could be reared, and the pressure of the large arches, these pinnacles must have been raised to an inconvenient height. This might, besides, be productive of several inconveniences; among others, it would lay such a great load upon the slender pillar below, as might risk the bringing it down, should the slightest degree of inaccuracy accidentally take place in the erecting of that pillar. Is it not possible, say they, to contrive an external abutment to resist this pressure, without overloading the pillar, and without altering in the smallest degree any of the arrangements in the structure below? Impossible! No, nothing is impossible to the willing mind. These artists had so often surmounted what others had deemed impossibilities, that they did not stop here. They soon perceived, that if an arch were sprung from the base of the lower pinnacle, just where it rises above the apex of the lower arch, so as to abut with its apex upon that part of the wall from which the superior arches spring that cover the inside nave, the resistance wanted there would be obtained, without imposing any additional weight upon the columns below. Can you conceive a situation in which loud peals of Io PÆANS would burst with such spontaneous ecstasy from the hearts of human beings, as upon this occasion would be experienced among all the members of this enlightened fraternity?

Such are the origin and uses of those external arches that have obtained the name of *spandrils,* which are thrown over the roof of the lower side aisles, and which, as they support no roof directly above them, have been by many accounted mere useless appendages, that ought to be swept away as the idle whims of a set of ignorant artists. It will not be difficult, however, to decide to which of the parties concerned this opprobrious epithet will best apply.

ART. V. *Perspective.* By J. R.

Can three sides of a right-angled prism, orthographically represented, be seen in the projection, if one side is represented as a true square, or as a right-angled parallelogram?

WHEN we consider the manner in which the elements of science are frequently taught to youth, both at schools and in the offices of architects; that the practice of an art is exhibited to the student, without the theory or elementary principles being thoroughly instilled in his mind; we cannot wonder that students, taught in this way, should, in after-life, exercise their art like mere machines, without knowing the why and the wherefore, or the principles on which it is founded; and this system of making mechanical, instead of reasoning, architects and surveyors may in a great measure account for those who have had some practice in their profession supporting an affirmative answer to the question which heads this paper. Before proceeding to show that the above question must have a negative answer, I shall first make a few necessary preliminary remarks for the sake of the general reader.

There are, properly speaking, only two kinds of projection: radial projection, and orthographical projection. The lines or rays of the former radiate to a point; the lines or rays of the latter are parallel. Under radial projection are comprehended oblique perspective; parallel perspective; birdseye oblique, and birdseye parallel, perspective. Under orthographical projection are comprehended, isometrical projection, and all angular or parallel representations delineated orthographically. The different kinds of perspective comprehended under the head of radial projection are all projected on the same principle; and the different kinds of orthographical projection are likewise all projected on the same principle: the different names given to the different kinds in each section being merely to denote the different positions in which the objects projected may be placed with relation to the eye and to the plane of projection.

In radial projection, or perspective, it is a fixed rule that the plane of projection is placed perpendicular to the axis of the visual rays from the objects to the eye. (In some cases in parallel perspective there would appear an exception to this rule; but that it is as strictly applicable to this mode of representation as it is to oblique perspective, I shall endeavour to show in my next.) In like manner, it is a fixed rule that the parallel rays by which the projections of orthographical representations are made are perpendicular to the plane of projection. This being the case, let us now prove that if one face of a cube be orthographically projected as a right-angled parallelogram, only one other face can be seen, which will also be a right-angled parallelogram.

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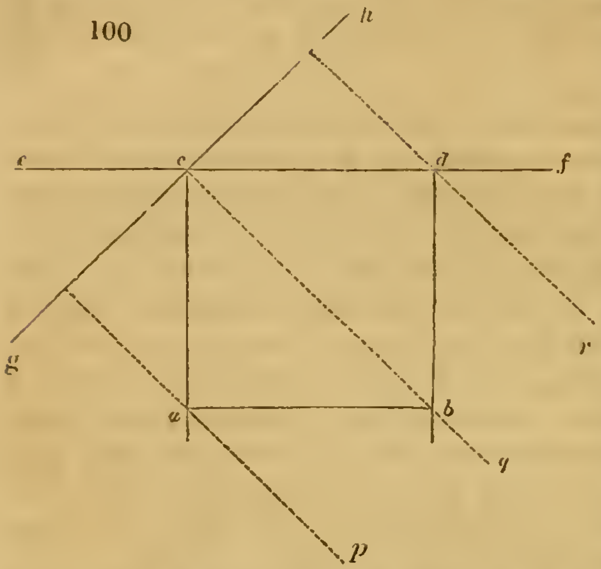

Let *a b c d* (*fig.* 100.) be the plan of a cube, and *e f* the plane of projection: *a b* must be parallel to *e f* before it can be of the same length in the projected representation as it is in geometrical plan. As the rays must be perpendicular to the plane, they will be parallel to *a c* and *b d;* consequently, neither of the faces *a c* or *b d* can be seen in the projection. Only one face, as in *fig.* 101., or two faces, *l* and *m*, as in *fig.* 102., can be seen; and the length *a n*, or *b o*, in the latter figure, will bear the same proportion to *a b* that the hypotenuse does to the side of a square. The faces *l* and *m* need not be represented equal, but in proportion as the one is increased the other is diminished; but if *a i* and *b k* are made the same length as *a b*, the surface of the face *l* must then be parallel to the surface of the plane, and its representation would be *fig.* 101. If *g h*, in *fig.* 100., were the plane of projection, then *p q r*, in the same figure, would be the rays perpendicular thereto, and *fig.* 103. or *fig.* 104. would be the projection: of course, the faces shown in these two figures need not be equal.

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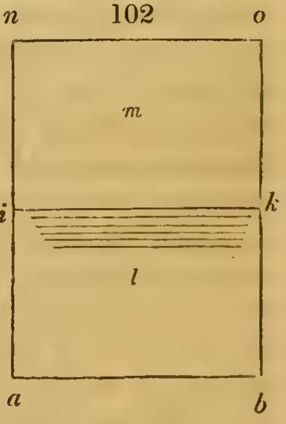

Therefore, if one face of a right-angled prism be projected as a right-angled parallelogram, only one other face can be seen, which will also be a right-angled parallelogram; because the rays by which these two faces are projected are parallel to the other faces which are at right angles to them.

If *s t u v* (*fig.* 105.) be the projection of one face of a cube whose plan is *fig.* 100., then, to represent *s t* the same length as it is in the geometrical plan, it must be parallel to the plane; and if *s t* be parallel to the plane, of course *u v* will also be parallel to it; and to represent *s u* and *t v* the same length as *s t* or *u v*, they must also be parallel to the plane: therefore

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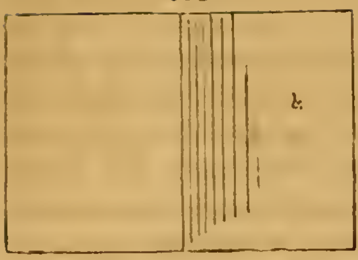

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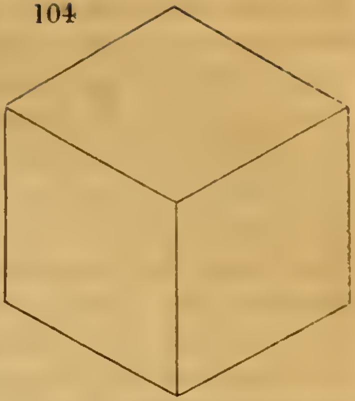

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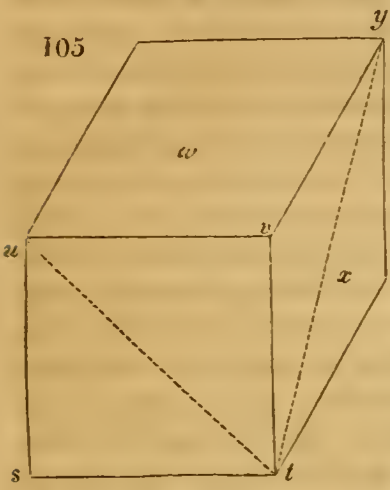

the faces x and w could not be seen, because they are parallel to the rays, and consequently perpendicular to the plane. But if $s\ u$ formed an angle with the plane, a part of the face w would be seen (as m, in *fig.* 102.); or if $s\ t$ formed an angle with the plane, a part of x would be seen (as &, in *fig.* 103.); but in no case could the two faces w and x be both seen, if the third face $s\ t\ u\ v$ be represented as a true square, and the angles right angles.

I have considered it necessary to be thus verbose, in order to obviate any mistake which might have arisen from a laconic description. It has here been shown that three faces of a cube cannot be exhibited by orthographical projection in any case, except when none of its boundary lines are parallel to the plane. Hence the want of principle in *figs.* 4, 5. 7, 8. 10. and 11. of plate xvii., and *figs.* 1. and 2. of plate xxiv., of a work recently published by Mr. Sopwith of Newcastle. The false representation of figures, such as the above, is the result of blindly following, in orthographical representations, the method of parallel perspective, without keeping in view that the very circumstance of the lines of the former running parallel prevents the application of the principles of the latter to it.

This inconsistency I shall notice in my next letter on parallel perspective.

Paddington, March 24. 1835.

P. S.—Mr. Sopwith assures us, that "parallel projection has, indeed, been strangely neglected in this kingdom." He is right. His book, and his remarks on my notice of it, bear striking evidence of the fact. We are told by this gentleman that the rays from an object are perpendicular to the plane: so far good; and then we are directed to hold the model of a wire cube in the sunshine, "so that its shadow may fall on a sheet of paper parallel to any two opposite surfaces of the cube; in which case eight of the boundary lines or edges of the cube would be parallel to the plane of projection." Now, reader, take this sentence with the following, and mark the disingenuous author:—"More or less of one or two adjoining sides of a cube would be shown, according to the greater or less obliquity of the rays of light." If the rays are perpendicular to the plane, and the two faces of a cube parallel to the plane, it is only Mr. Sopwith who can tell how, in this case, we can have the rays oblique to the cube. *Fig.* 105., in the foregoing article, is represented exactly after the manner of Mr. Sopwith's "verti-horizontal" figures. In this figure, the diagonal *t y* is much greater than the diagonal *t u*. What an ingenious and convenient system this is, which Mr. Sopwith has found out! He can, by it, squeeze out to a greater length the diagonal of the face of a cube, than its actual geometrical length! Projection will, I fear, continue to be "strangely neglected in this kingdom," if such reasoning, and such illustrations, are to be its only support. The science of perspective would dread the friendship of such advocates as our author.

I hope that Mr. Sopwith will find more real *substance* in the preceding remarks than in *shadows* from the wire cube. He will perceive that these remarks (which I defy him to controvert) have established the want of principle in certain figures in his work. Therefore, I beg that he will take back with interest the "drawings which will remain a testimony of his own want of knowledge," &c. If he wishes to hear farther on this subject, I shall do my best to bring other objects before his vision, which he now only appears to see in the distant perspective; objects which will radiate to the same point, namely, to show that his *Treatise on Isometrical Projection* (apart from the other information it contains) is neither the best, nor yet the most correct, work that has appeared on the subject. J. R.

ART. VI. *An Attempt to explain the Elements and Principles of Gothic Architecture to the general Reader.* By J. A. PICTON, Esq., Architect.

(*Continued from* Vol. I. p. 333.)

WINDOWS.—Before proceeding with the subject, it may be well to assign some reasons for what many will consider the unpardonable omission of all notice of Saxon architecture in this classification of the Gothic. The object of the present series of articles is not to instruct the architect or the antiquary, but to offer a general view of the subject to those who have not before studied it; and to illustrate the progress of Gothic architecture by reference to buildings of acknowledged date, without entering upon any debatable ground. The fact is, notwithstanding all that has been written on the subject of Saxon architecture, it is still open to discussion as much as ever. It would be difficult, perhaps impossible, to prove demonstratively that any existing remains are of the Saxon era; yet there are strong grounds for the supposition that parts, at least, of buildings now in existence were erected during that period. In antiquarian researches, dates and documents are of essential importance; in the absence of these, we are afloat on a sea of doubt and conjecture, without helm or compass. It is only from the period of the Conquest that we tread on firm ground, and can verify our opinions on the progress of the art by reference to buildings, the date of whose erection is ascertained beyond controversy. With this apology to those who may deem it necessary, I will proceed to the consideration of Gothic windows.

The windows of Gothic edifices, from their pleasing variety of form, their frequent magnitude and richness of decoration, and the brilliant hues of their stained glass where it still remains, generally attract the attention and interest the mind of the casual observer more than any other portion of a building, while to the architectural antiquary they offer an almost inexhaustible fund for study and observation. In many of the other details of ecclesiastical architecture, the variations of style are blended together by such imperceptible gradations, that it requires a well practised eye to discriminate the slight shades of difference; but, in the windows, the distinctions are so broad and well defined, that a very little attention will enable any person of ordinary capacity to assign its proper date and class to most of the windows which may fall under their notice.

It may seem a gratuitous piece of information to remind our readers, that windows are apertures for the admission of light and air; yet, in this and every other art, a little attention to the end proposed, as compared with the means of attaining it, will go far to elucidate its progress. The forms of architecture are essentially modified by soil, climate, and the nature of the building materials available; indeed, the whole history of Gothic architecture affords a beautiful exemplification of the mode in which the arts of life accommodate themselves to the varying circumstances of society. At the time of the Conquest, and for a long period subsequent, glass was extremely scarce and dear: glazed windows would, therefore, naturally be few in number, small in their dimensions, and confined to large and costly edifices. At the same period the smaller churches were lighted either by small circular apertures, as at *fig.* 106. (from Framlingham Earls, Norfolk), or by

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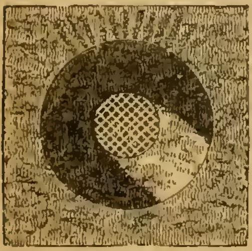

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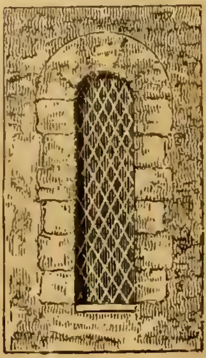

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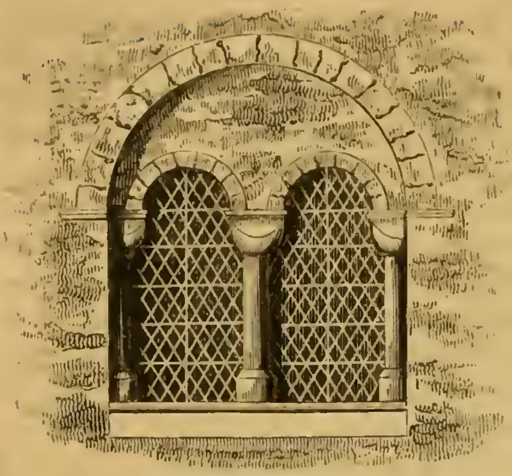

narrow upright slits, a few inches wide, with circular arches, as at *fig.* 107. (from Gillingham, Norfolk). Mr. Britton remarks that these windows were evidently never intended for the insertion of glass, from the absence of any rebate or check in the stone for its reception. Although these apertures were splayed off in the inside to a considerable width, to afford as much light as possible, yet the interiors must have been dark and gloomy in the extreme; so much so, that very few openings of this early character remain, having generally been displaced by the

> " Storied windows, richly dight,
> Casting a dim religious light,"

of a subsequent period. *Fig.* 108., from St. Albans Abbey church, is a specimen of a double window of early Norman character, clumsy in its design, and rude in execution. The large plain arch, springing from square piers with imposts, illustrates the Roman origin of the style. The column shafts are sometimes omitted, and zigzags and other ornamental mouldings carried completely round the window. These mouldings and column shafts gradually assumed a lighter character, preparatory to an alteration taking place in the form of the arch, which eventually led to a radical change in the whole system of ecclesiastical architecture. The church of St. Cross, Hampshire, erected in 1136, by Henry de Blois, brother of King Stephen, is generally admitted to be the first building in England in which the pointed arch was displayed. *Fig.* 109. shows part of an intersecting semicircular arcade, forming the triforium or gallery over the chancel of this church. Arcades of this description form a very common decoration of Norman churches, and wherever they are used, it is evident that the shape of the pointed arch is formed; but this is supposed to be the first

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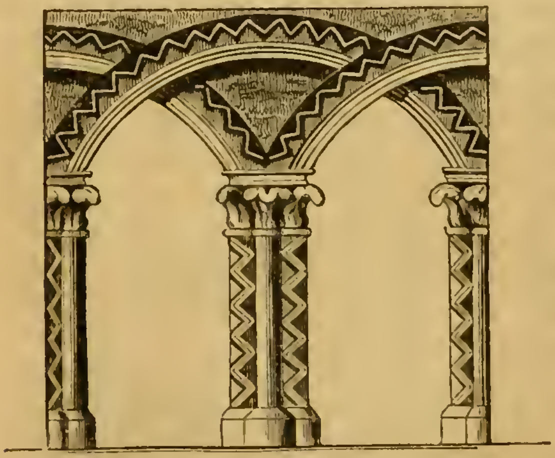

instance of an aperture of this shape being pierced through the wall as a window, and forming a self-supported arch. But however this may be, very soon after this date the pointed arch came into general use, though not immediately, to the exclusion of the esmicircular one; for, during the remainder of the twelfth century, we find the two arches used in conjunction, sometimes the semicircular over the pointed ones, and sometimes under them; and, in a few instances, as at Barfreston church, Kent, arches of both forms, springing from one string-course. During this transition from one order to another, there appears to have been some confusion in the style of decoration adopted. We see, not unfrequently, semicircular-headed windows with the slender column shafts and under-cut mouldings of the early pointed era, as at St. Cross, mentioned above: at other times, pointed arches supported by columns of the massive proportions belonging to the Norman period. In either case we may, with great safety, assign any such examples to the latter half of the twelfth century.

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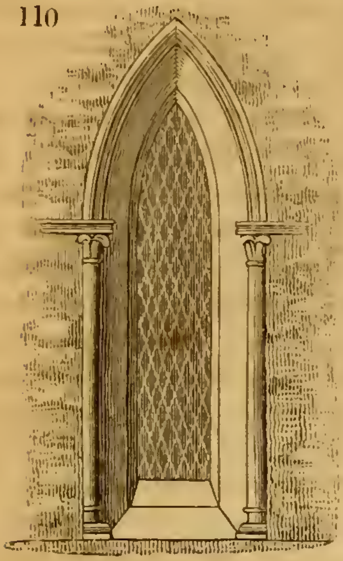

About the year 1200, or very soon after, the semicircular arch disappeared altogether, and the long lancet windows became firmly established. These were at first single, as in *fig.* 110., an early specimen from Chichester Cathedral; afterwards double, as in *fig.* 111., from Salisbury Cathedral. Sometimes we find three of equal height, as in *fig.* 112., from Beverley Minster; but more frequently the centre light raised, as in *fig.* 113., from the Temple Church; and, occasionally, five or even seven lights, with a dripstone sometimes embracing the whole. As the thirteenth century advanced, more ornament began to be introduced; the unsightly appearance of the head of the double lancet window was avoided by inserting a circle between the heads with a dripstone over. About the same time commenced the foliation, or feathering, of these circles and window heads, perhaps the most elegant and

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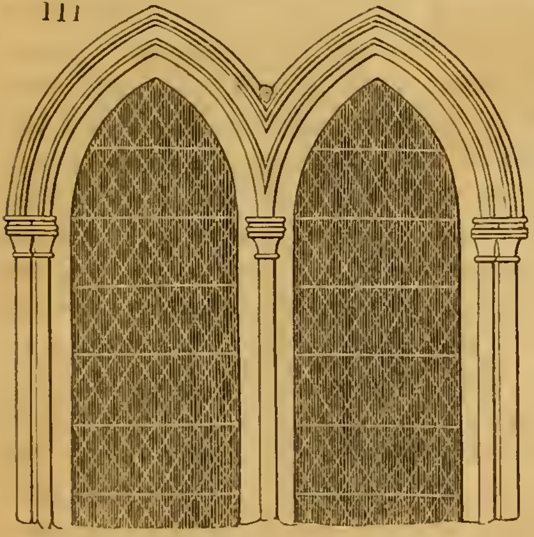

characteristic ornament of the Gothic style. This continued until towards the close of the thirteenth century, when a further change took place. Up to this time, although three, five, or seven lights might be combined together, yet, the divisions between them being the full thickness of the wall, each light, in fact, constituted a separate window, the arch being entirely distinct, and only united by a dripstone over all. Under these circumstances, any thing like tracery was manifestly impracticable. About the latter end of the thirteenth century, these separate lights, or bays, began to be united into one window, by an arch surmounting the whole, and extending through the wall. The heavy divisions became now no longer necessary, and were accordingly superseded by the light mullions and tracery of the decorated period. This transition, although tolerably rapid in point of time, yet advanced by steps so gradual, and differences so minute, that it is not in all cases very easy to mark each stage of its progress. The cathedral church of Salisbury, erected between the years 1220 and 1260, and generally admitted, as a whole, to be the finest specimen extant of the early pointed, exhibits this transition in a remarkable degree. The windows of the side aisles are double lancets (*fig.* 111.); the clerestory windows triple lancets, as in *fig.* 113.; the openings of the triforia or galleries each consist of a large arch divided into two parts (see *fig.* 114.), and these again subdivided, with quatrefoiled circles cut in the flat space between the heads. Here we clearly discern the germ of the subsequent geometrical tracery. This is still farther developed in the magnificent windows of the chapter-house commonly attributed to Bishop Bridport, who died in 1262: these, likewise, consist of four bays each, with a large foliated circle at the apex, and two smaller ones below. Here, however, the circles and arches,

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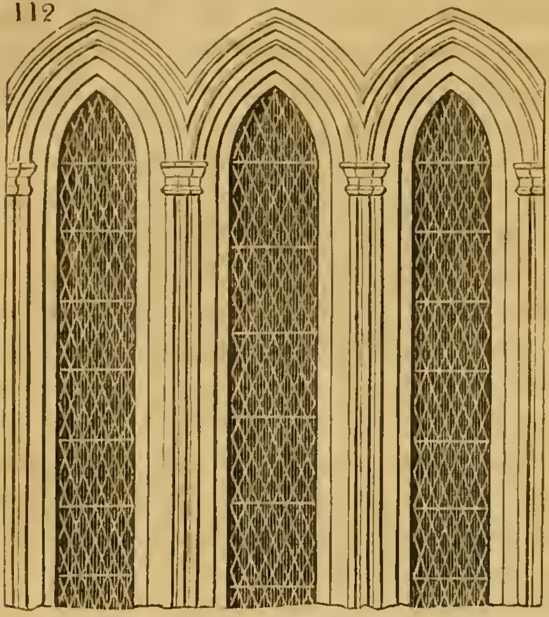

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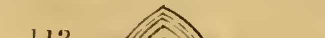

instead of being cut into a solid space, merely touch at the points, and do not extend the full thickness of the wall. From the lightness of the shafts, or mullions, of these windows, and their general elegance of form, we are led to connect them with the eastern windows of Lincoln Cathedral, erected 1306, to which they bear a striking affinity in character. The great east window of Lincoln contains eight bays, or lights; the tracery, which consists entirely of combinations of foliated circles, is too complicated for insertion here; but *fig.* 115. shows the windows of the side aisles, which are of the same date, and of similar character.

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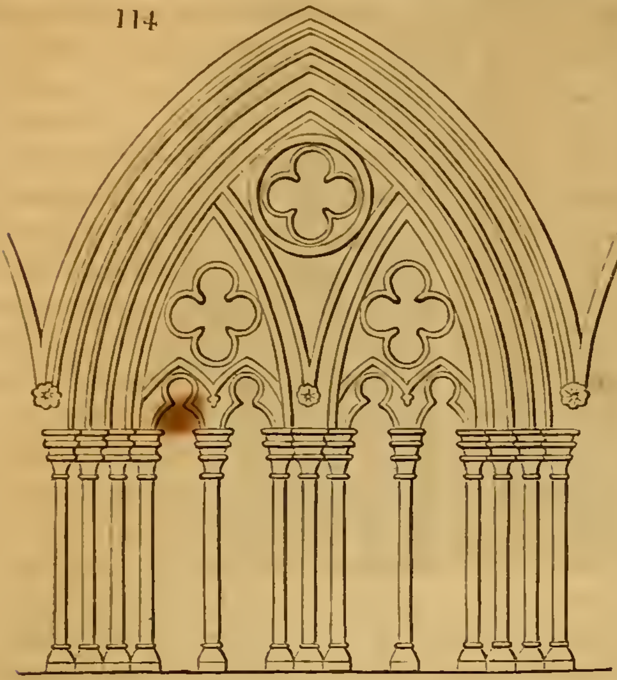

These combinations of geometrical diagrams, circles, triangles, &c., however varied, becoming soon exhausted, compound curves were next struck out, which gradually extended themselves into the beautiful flowing tracery of the succeeding period. This change took place early in the fourteenth century, and continued down to the reign of Richard II. Of the gradual formation of this style of tracery some idea may be formed from the inspection of *fig.* 116., from the nave of Exeter Cathedral. *Fig.* 117., from Nantwich church, Cheshire, well exhibits the easy graceful flow of the lines, which preeminently distinguishes the decorated tracery. *Fig.* 118., from the choir of Tewkesbury Abbey church, shows the radiated wheel, a very common mode of finishing circular windows, but not very frequently introduced into the tracery of pointed arch windows. To multiply specimens, however, would be fruitless, as the variety is almost

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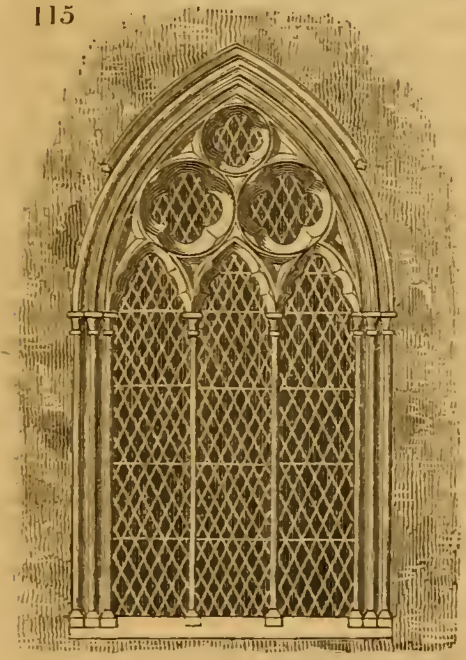

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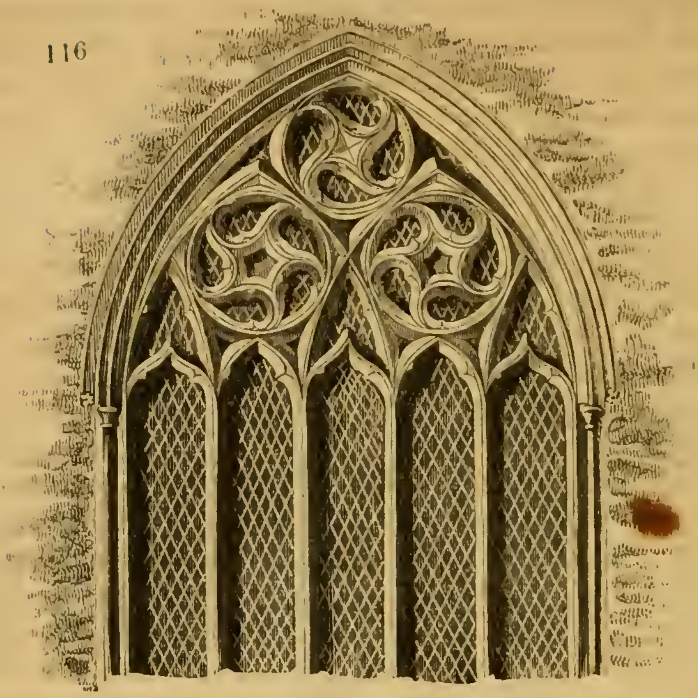

infinite, scarcely two examples being found alike. Even in the same building it is not uncommon for the windows to be placed in pairs, all the windows on one side differing from each other, but corresponding with those on the opposite side. Exeter Cathedral is an example of this mode of arrangement, which, it will readily be conceived, must have required a fertility of imagination and an extent of resource almost inexhaustible. Some of the finest specimens of the east and west windows of our cathedrals are in this style. The west window of York Minster, consisting of eight lights, and the east window of Carlisle, and west window of Exeter, cathedrals, of nine lights each, are the most celebrated. *Fig.* 119. shows the west window of Durham. The east window of Lincoln has been already mentioned. It is to this style of tracery that Scott so beautifully refers, in his description of Melrose Abbey, in the *Lay of the Last Minstrel :—*

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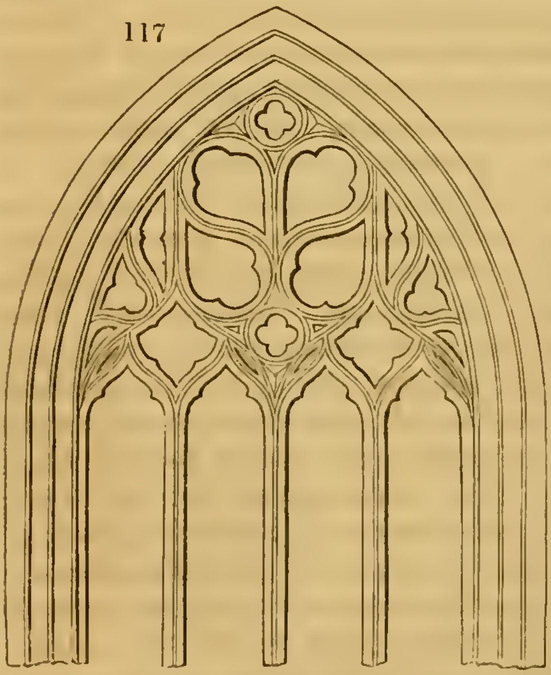

> "The moon on the east oriel* shone
> Through slender shafts of shapely stone
> By foliaged tracery combined;
> Thou wouldst have thought some fairy's hand
> 'Twixt poplars straight the osier wand
> In many a freakish knot had twined;
> Then framed a spell when the work was done,
> And turn'd the willow wreaths to stone."

In the fourteenth century the first specimens of square windows occur. We are not aware of any windows of this shape either in the Norman or early pointed styles. They are not uncommon at this period in the side aisles of small churches. *Fig.* 120. is from Runcorn church, Cheshire. The square form became gradually more and more affected during the fifteenth and sixteenth centuries, particularly in domestic architecture, until it produced the huge mullioned and transomed windows of the Elizabethan era, the form of which, in remote parts of the country, continued, with some modification, to a very late date. The architects of this period bestowed much care and attention on their circular windows. We have not, in this country, the magnificent specimens of rose windows which France and Germany can boast of; but the finest examples we possess are of this age. There are a few specimens of circular windows in the Norman style, as at Barfreston and Patrixbourne, Kent; but in the thirteenth century they become more numerous. The earliest of these windows consists generally of spokes or balusters radiating from a centre, with foliated heads. Of this description are the windows in the south transepts of Beverley and York minsters. At the latter end of the thirteenth and the beginning of the fourteenth centuries, these circles were filled in with geometrical diagrams of the same description as the tracery in the pointed-arch windows of the same period, as in the north transept of Lincoln Cathedral. Towards the middle of the fourteenth century, radiated circles again occur; the spokes or rays had, however, become simple mullions, without caps and bases, the

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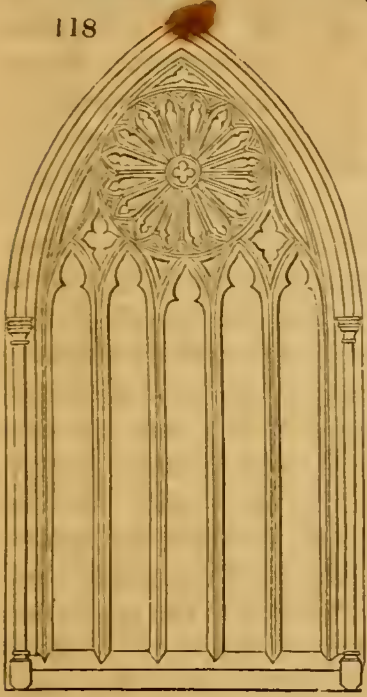

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* By the by, the great Bard of the North is here as erroneous in his architecture, as he is in *Marmion* and in *Ivanhoe* in his heraldry. The term oriel always implies an angular projecting window, and is never applied to the east window of a church. Sir Walter's antiquarian knowledge was great and unquestionable, but "Aliquando dormitat bonus Homerus."

mouldings being carried round the arched heads. Wheel windows, with flowing tracery, are not frequent in England. A richly ornamented window of this description, decidedly the finest in the country, occurs in the south transept of Lincoln Cathedral.

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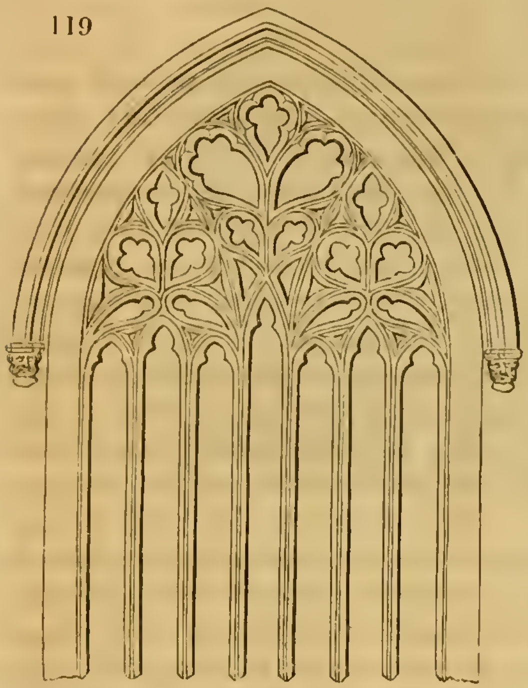

It is generally admitted, that about the reign of Edward III. Gothic tracery had reached its highest point of excellence; but although the elegance of its forms, and the graceful play of its flowing outlines scarcely admitted of alteration without deteriorating its beauty, the spirit of that age, in architecture at least, was rife with the principles of innovation. Some singular specimens of design, the offspring of the prevailing rage for novelty which existed at that period, are still extant. One of the most singular of these is the window on the north side of the chancel of Dorchester church, Oxfordshire, which describes the genealogy of our Saviour from the patriarch Jesse, who is represented lying on his back on the window sill, with a stem growing out of his body, which divides itself into five branches on each side. These stems or branches constitute the mullions and tracery of the window, and support in all twenty-five statues, the progeny of the patriarch, thus illustrating Isaiah, chap. ii. ver. 1.: "And there shall come forth a rod out of the stem of Jesse, and a branch shall grow out of his roots." In the east window of a small church at the village of Llanrhaiadr, Denbighshire, between Denbigh and Ruthin, I have observed the same design, but executed in stained glass, and apparently of rather later date than the above described.

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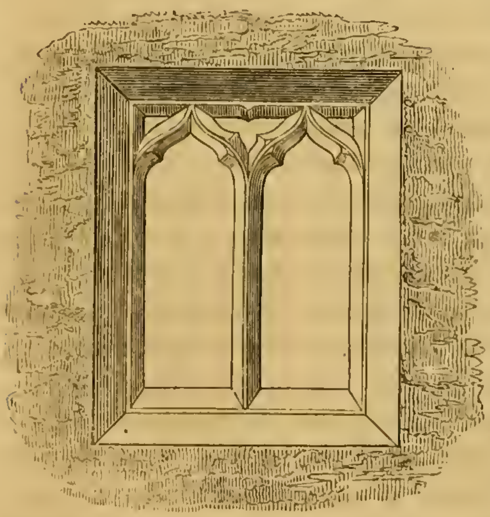

In the reign of Richard II. the transition took place from the decorated to the perpendicular style of tracery, which continued, with little material alteration, to the period of the decline and extinction of Gothic architecture. The flowing lines now grew into disuse; in their place the mullions began to be carried up in straight lines to meet the arch of the window, the spaces between being divided into panels by mullions springing from the heads of small trefoiled or cinquefoiled arches (see *fig.* 121., from Bath Abbey church): hence the origin of the term perpendicular, from the general prevalence of vertical lines. Cross mullions, or transoms, now began to be introduced, dividing the windows into several stages, or compartments, vertically, which still farther increased the stiff paneled appearance. It is not difficult to imagine the process by which this change took place. The height and breadth of the windows had been gradually increasing during the thirteenth and fourteenth centuries. From the waving direction of the lines of the tracery, the window heads would require very large stones, which could not always be readily procured, nor conveyed to the site of the building, without great expense and risk. From the great height and slender proportion of the mullions, also, they would be ill calculated, in some kinds of stone, to sustain the superincumbent weight without lateral support. By the adoption of the perpendicular style of tracery, both these difficulties were surmounted. From the increased number of the points of support, and the straight direction of the lines in the window heads, stones of a much smaller size would be available, whilst the transoms afford all the necessary lateral support.

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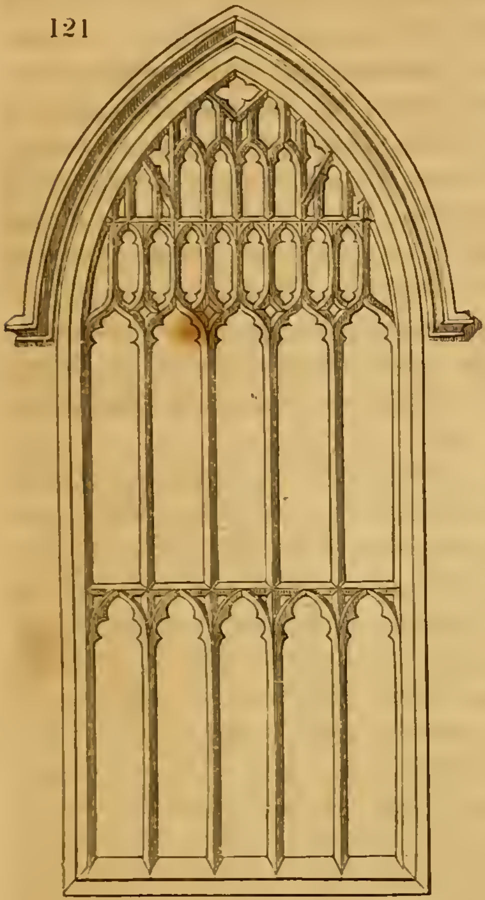

Although the spirit and imagination which distinguished the preceding style was but poorly exchanged for the minute ornament and endless repetition of that which succeeded; yet it must be confessed, that, in the latter, all which richness of decoration and magnificence of design, combined with magnitude of dimensions, could effect, has been produced. The impediments above mentioned being now removed, the size of the windows rapidly increased; particularly the east and west windows of conventual and cathedral churches, amongst which the most magnificent, if not the most beautiful, specimens belong to this era. The east window of York Minster is generally considered to be the finest perpendicular window in Great Britain. The west window of Winchester Cathedral, built by William of Wykeham, who died in 1404, is also deserving of special notice. The whole extremity of the centre aisle of the nave, from pier to pier, and from the floor to the apex of the groining, may be considered as one window; the upper panels pierced for light, and the lower panels blank, the doors being merely pierced panels. There are very few of our cathedrals or abbey churches which do not contain some windows in this style of tracery. Of buildings wholly erected during this epoch, amongst the most worthy of mention are, Bath Abbey church; King's College chapel, Cambridge; and Henry VII.'s chapel, Westminster. The readers of the *Architectural Magazine* need be at no loss for specimens of perpendicular tracery, as they abound in every county; full two thirds of all the Gothic windows in the kingdom being of this character.

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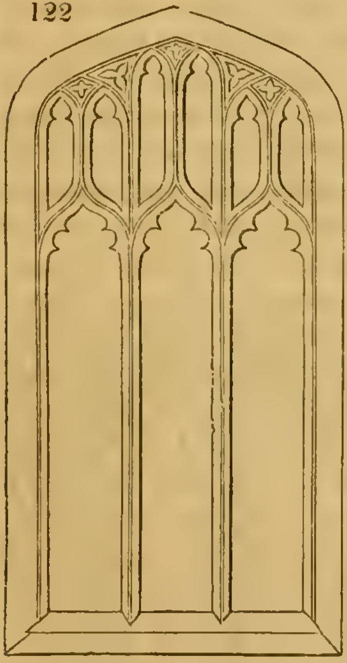
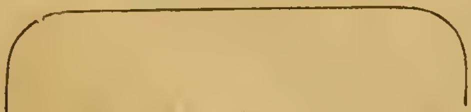


In the early part of the reign of Henry VII., about A.D. 1486, the four-centred or Tudor arch was introduced, but the character of the tracery was not materially altered in consequence (see *fig.* 122., from Great Budworth, Cheshire). The object, in adopting this form of arch, was, in all probability, to obtain in a given height as great a quantity of light as posssible, by including the space lost in the spandrils of a two-centred arch. It is curious (as Mr. Rickman observes, in a late paper in the *Archæologia*) to remark the different mode adopted by the French architects of that period, to attain the same end. The arch in England grew gradually more and more obtuse, until it finally became nothing more than two straight lines, with small curves springing from the piers (see *fig.* 124.); in which form it occurs in door heads, &c., in remote parts of the country down to the end of the seventeenth century; but still, the central point was never dispensed with until the final abandonment of the style. In France, on the contrary, in order to gain height, the



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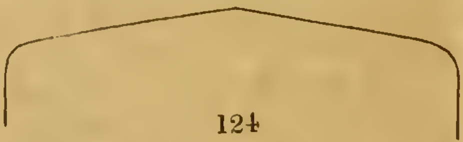

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elliptic, or three-centred, arch was adopted early in the sixteenth century, if not previously. This, as in the former case, gradually flattened in its contour, until it terminated in a straight line, connected with the jambs or piers by small curves. (*fig.* 123.) This circumstance, it will readily be conceived, confers an entirely distinct character on the architecture of the sixteenth century in France and England, giving to the former a much more Italianised appearance. In English windows, of late perpendicular character, the smaller curves are sometimes dispensed with; the arch assuming the pointed segment form, as in the Collegiate Church, Manchester. In a few instances the window heads are formed by two straight lines, meeting in a point, without any curve; but this rarely occurs in church architecture.

There are two circumstances worthy of mention in reference to the perpendicular style of tracery. One is, the rapidity of the transition to this style from the decorated, with the fact that, when once established, it experienced little change in character, as may be proved by comparing the north window of Westminster Hall, built before the end of the fourteenth century, with the clerestory windows of its opposite neighbour, Henry VII.'s chapel, erected considerably more than a century later. This fact would certainly seem to confirm the idea thrown out above of the origin of this style of tracery. The other circumstance is, the extreme inequality in the designing and execution of work during the perpendicular period. In the early pointed and decorated styles, the designs are almost always characterised by a considerable degree of vigour in the conception, and carefulness in the execution. In the perpendicular styles, whilst we have many splendid specimens of architectural taste and beauty, it must be acknowledged that much of the work displays great tameness and poverty of idea in the design, and frequently considerable rudeness in the execution. This is particularly observable in many small churches, and additions to churches, erected in the early part of the sixteenth century. Since the taste for pointed architecture has revived, it has become too much the custom to profess admiration for the architecture of every building erected previously to the Reformation. This may be called both literally and metaphorically, a Gothic taste. In this in-

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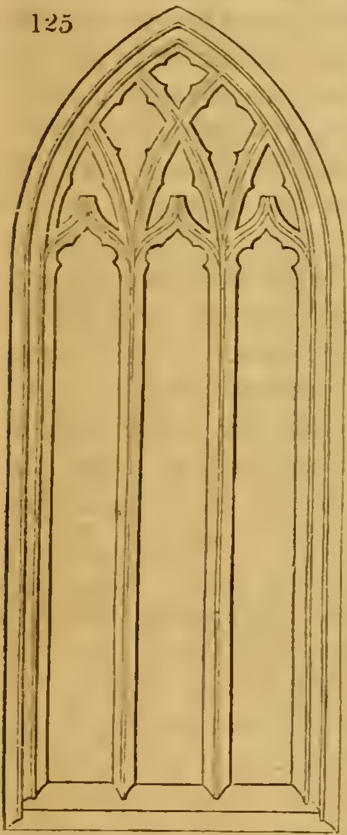

discriminate admiration, I must confess, I cannot sympathise. My antiquarian predilections are not sufficiently strong to enable me to feel veneration for any building simply on the score of its age. To excite a legitimate feeling of respect, an edifice ought either to possess some intrinsic claims to excellence, or to be the means of exciting, by association, a train of ideas of a pleasing or improving character. In default of either of these recommendations, a blind admiration for antiquity, must be considered, at best, but as a spurious and doubtful sort of taste, more calculated to mislead and delude its votaries, than to produce any desirable results.

The above sketch will be found, as far as it goes, to give a tolerably correct statement of the progress of Gothic tracery in this country; but before concluding, it will be necessary to mention a few farther particulars, to guard our readers against mistakes.

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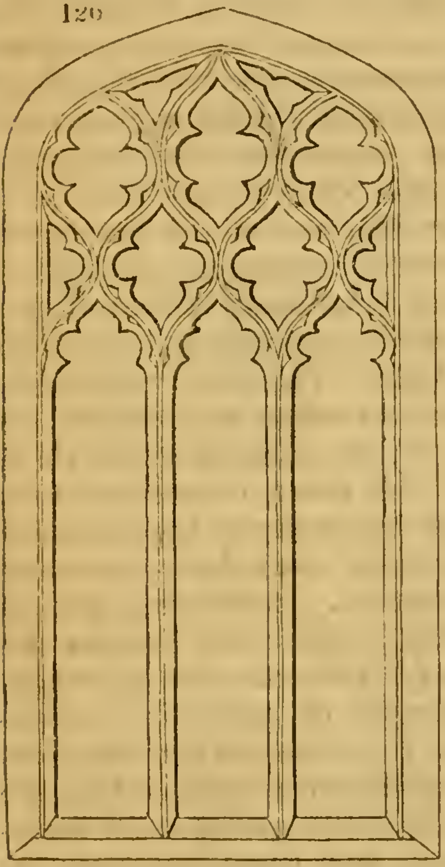

To sum up, in a few words, the essential distinctions between the several styles, or orders, if we may so call them, of Gothic windows: the semicircular arch marks the period from the Conquest to the middle of the twelfth century, generally earlier or later, according to the massiveness or lightness of the proportions. Semicircular arches, in union with pointed arches, having the same mouldings and decorations, mark the latter end of the twelfth century. Windows with pointed heads, single, double, triple, &c., with the divisions extending through the wall, are not later than the middle or latter end of the thirteenth century, and belong to the Early Pointed Order. Tracery, with the divisions of the lights not extending through the wall, the heads forming geometrical figures, belongs to the Early Decorated, and fixes the date of the windows in the first half of the fourteenth century. Tracery in flowing lines is not found later than the end of the reign of Edward III. or the beginning of that of Richard II. The upright paneled tracery belongs to the Perpendicular Division, from the end of the fifteenth century to the time of the Reformation. Windows with Tudor arches must have been erected subsequently to A.D. 1485. These are the general principles; a few exceptions, apparent, not real, must now be noticed. There are one or two forms of tracery common to both decorated and perpendicular windows. One is shown, *fig.* 125., from Nantwich church, the mullions simply crossing each other, and the spaces between feathered. If this occurs under a Tudor arch, its date is clearly marked. If the featherings are merely formed in the hollow of the mullion, and the square fillet not carried round with the feathering, it belongs to the perpendicular; if, on the contrary, the fillet itself is feathered, it belongs to the decorated, period. Another form, which is common to both periods, and may be detected by the same tests, is *fig.* 126., from Great Budworth. In all similar cases there are differences in the style of the mouldings, &c., which a practised eye will immediately discover, and which will be noticed hereafter. It happens sometimes that the forms of an earlier style are used, combined with the mouldings and details of a later date. Thus we sometimes meet with awkward attempts at flowing tracery under a Tudor arch, as in *fig.* 127., from Astbury church, Cheshire.

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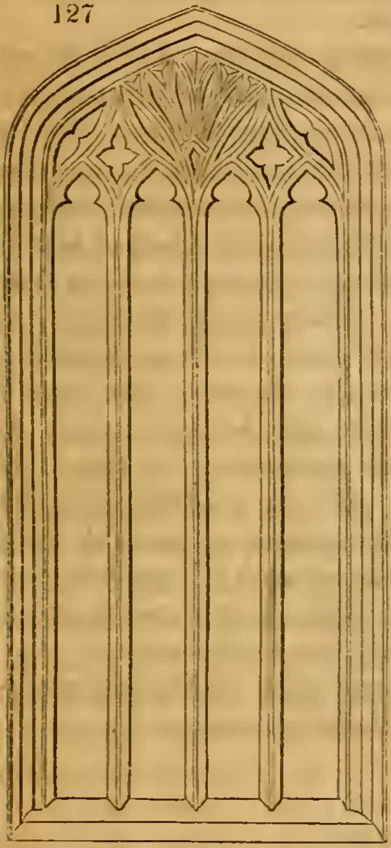


Another source of confusion to a novice is, the circumstance of arches in one style being frequently filled in with tracery belonging to a subsequent period. In the side aisles of St. Nicholas's, Gloucester, there are Norman arches, with perpendicular tracery inserted. A striking instance, also, occurs at the west end of Tewkesbury Abbey church, where a fine deeply recessed Norman arch, upwards of 60 ft. in height, has been filled in with late perpendicular tracery. The wheel windows in the transepts of Westminster Abbey have tracery evidently more recent than the windows themselves.

As a rule of very general application, it may be useful to be mentioned, that no part of a Gothic building (of course excluding modern restorations) is found older than the doors, or more recent than the windows. This rule may admit of some exceptions, but they are exceedingly few. The reason of it will readily appear. From the small size of the early windows, as stated above, and the gradual increase in their dimensions as the style progressed, it will easily be conceived, that the windows would be more frequently enlarged and altered than any other feature of an edifice. Hence it happens, that, where any of the small early windows have escaped destruction, they are always accompanied by larger windows of a later style. The same necessity did not exist for altering doors, so that we have remaining a much greater number in the early styles. It is by no means uncommon to find a Norman or early pointed doorway, and all the rest of the building of a much later character. This rule, however, only applies to the exterior of churches; the outside walls being sometimes entirely rebuilt, whilst the interior displays a style several centuries earlier. Of this, St. John's church, Chester, offers a good example.

This article has been necessarily more minute, and has extended to greater length, than will be needful in future papers; the window in Gothic architecture, like the column in the Grecian, being at once the most distinctive feature, and the member to which the other parts are in a great degree subordinate. Considering the widely diffused taste for Gothic architecture at the present day, the prevailing ignorance of its true principles appears most marvellous. Many persons seem to think that nothing more is necessary than to heap together clustered columns and pointed arches *ad libitum*; and would treat with the most magnanimous contempt any attention to dates in the forms of the mouldings, or consistency in the style of tracery adopted. I have known a person, professing to be an architect, mistake a common Venetian window, erected sixty or seventy years ago, for a genuine Norman arch; happening, as it did, to be in a church. I trust that, by the time these sketches are completed, your readers will hardly err to this extent.

The next article will be on the general plan of Gothic ecclesiastical edifices, and a description of their various parts.

Liverpool, December, 1834.

ART. VII. *The Dwelling-Rooms of a House.* By J. J. KENT, Esq., Architect.

(*Continued from* Vol. I. p. 308.)

THE Dining-Room.—This, in England, is a room of great importance, particularly with the rich; for nothing with the English can be done satisfactorily without the accompaniment of a good dinner; and, indeed, some think this is the only thing that in its fruition fulfils the anticipated pleasure. The dining-room is a place in which the host displays much of his wealth and taste, and where, if he be a sporting man, he hangs the portraits of his favourite hunters and dogs, that he may refresh his memory of their exploits, and thereby obtain pleasing subjects of display and self-gratification.

This room should be quiet, and unconnected with any other except a library or store-room; and with the latter only by an opening at the back of the sideboard, or in some other part where it may be concealed, and through which the dessert, &c., may be handed; thereby preventing the too frequent opening and shutting of the door. There should not be any door of communication with the store-room; as, being liable to be occupied by servants, it will destroy the privacy of the dining-room.

The accessories to the dining-rooms of the rich are the ante, or waiting, room for servants, and a retiring-room for gentlemen; though they should not either of them communicate immediately with the dining-room, but should be approached through a lobby.

The dining-room should never be less than 14 ft. wide; and even then it will not admit of furniture being placed against the sides of the room. A width of 14 ft. is requisite to enable the servants to pass round the table safely with the dishes. In houses of a superior class, this room should be 18 ft. or more in width, in proportion to its length; and it should be lofty and well ventilated.

The floor of this room, as of all good rooms, should be pugged to destroy sound. The sides of the floor are often left uncovered, the carpet not reaching to within 18 in. to 24 in. of the skirting; but even in this case it should be bordered, as Turkey carpets are, to give the idea of completeness. The floor boards should be of the best description; and, where the sides of the floor are to be left exposed, such portions are frequently executed in oak or wainscot, and sometimes framed in panels, or parquetted, as described in the *Encyclopædia of Cottage, Farm, and Villa Architecture*, p. 1013. When so done, they should be kept polished by dry rubbing.

There should be a dado round this room, from 2 ft. 3 in. to 2 ft. 9 in. high, to preserve the wall from being injured by the furniture, and to give importance to the room.

The general character of this room should be more subdued and sober than that of the drawingroom, or, indeed, of any of the dwelling-rooms, except the library. The most suitable colour is wainscot, for the doors, dado, and windows; and some other warm tint to harmonise with it, for the walls above the dado: the choice of the latter must depend on the taste of the occupier; but few colours look better than a deep crimson paper in flock, either plain or figured, with gold or wainscot mouldings, where paintings or prints in frames are hung. It is better to have the walls painted than papered, and the frames hung by strong cords from brass or painted iron rods, laid on hooks close under the cornice. The ceiling and cornice should be very lightly tinted, to agree with the colour of the walls; and the enrichments of the cornice should be relieved.

The ceiling in this room may be paneled and enriched with paper, or plaster-cast ornaments and flowers, for lamps or chandeliers to hang from. The cornice should be bold and enriched, in proportion to the size and style in which the other parts of the room are finished. Where height sufficient can be obtained, a cove, either plain or ornamented, may be introduced with good effect.

A recess should be constructed for the sideboard, if possible; at all events, some preparation should be made to receive it.

The chimney-piece should be of dove, or black, or black and yellow, marble, bold and massive. If carved at all, the carving should be in masses, and in high relief: the character of the chimney-piece should be architectural, and in keeping with the style or order used in the room.

Means should be provided for ringing the bell without rising from table; and this might be effected by pressing the foot on a knob under the table, or by lines passing through pulleys and under the carpet to the chairs occupied by the master and mistress of the house.

There should not be any closets in the dining-room. If it be thought necessary to have the means of putting any thing away in the room, beyond those afforded by the sideboards, pieces of mahogany furniture, French polished, such as chiffoniers, &c., might be introduced.

The doors, if not painted like the window and dado, may be of mahogany, highly polished: in that case they should be wide and folding; and there should be double doors to every doorway. The sashes and beads of the windows should then be mahogany also. The windows should be large, and brought down to within about 2 ft. 3 in. of the floor.

The knobs to the shutter-latches and to the locks should be of turned dark wood, or of cocoa nut, inlaid with ebony.

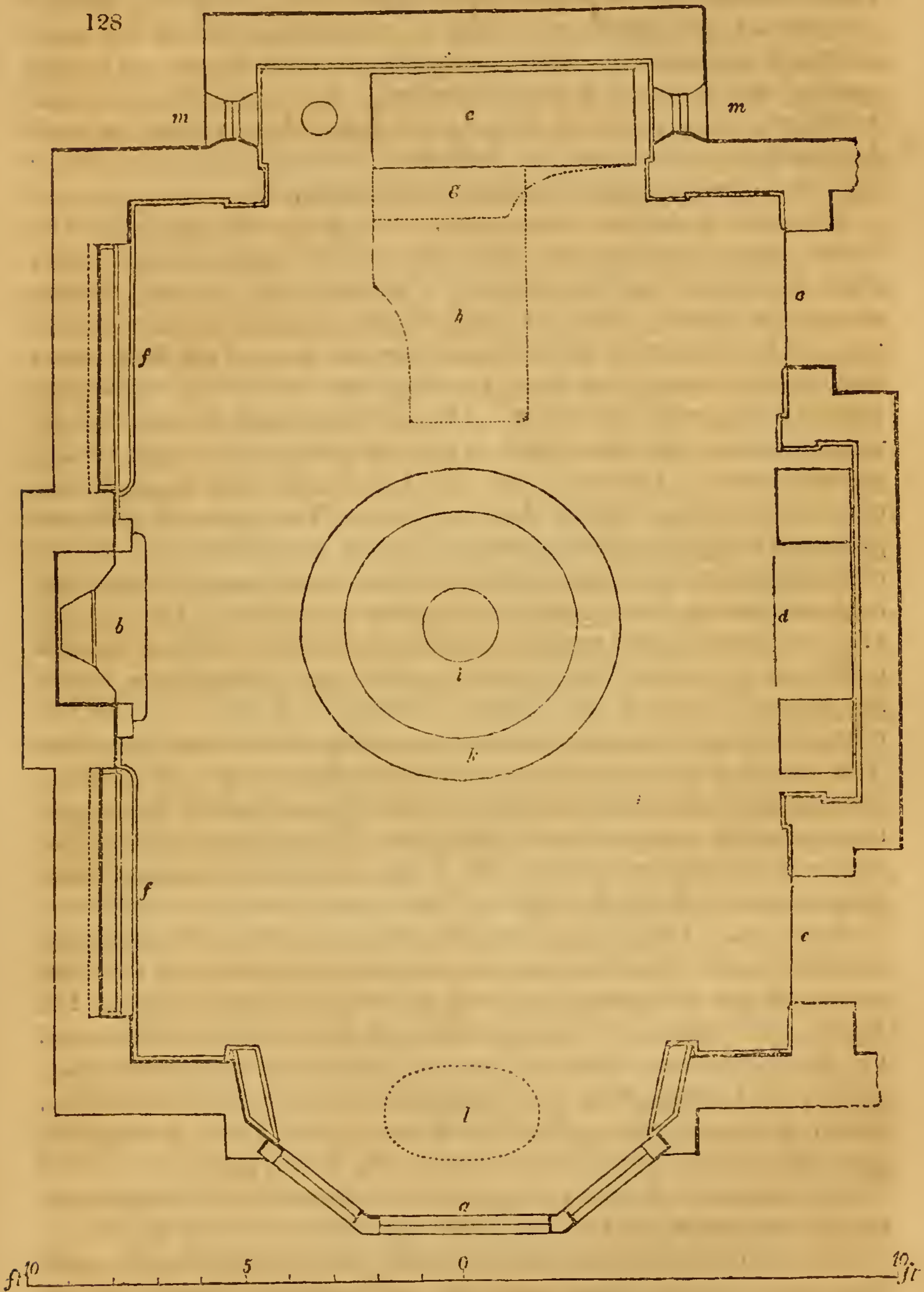
The whole of the furniture, as the dining-table, chairs, sideboard, and chiffoniers, should be mahogany, French polished. The frames to the looking-glasses may be of oak inlaid with ebony; unless there are gilt picture-frames hung in the room; in which case the frames to the looking-glasses should be gilt also, as likewise the carved cornice over the curtains.

The curtains should be a geranium or a fawn colour, with broad lace and fringes.

These observations apply more to the dining-room of the man of rank, which is strictly and exclusively a *salle à manger*, than to that of persons in the middle class of life. Where the dining-room is also the library, and, indeed, the only family room, except the drawingroom, the following sketch will give some idea of one which, in my opinion, is capable of fulfilling all we can desire in such a room:—

Imagine a comfortable family room (*fig.* 128.), from 20 ft. to

128



24 ft. long, 15 ft. to 18 ft. wide, 11 ft. to 13 ft. high, with the bay window (*a*) looking to the north, or perhaps a little west: this might be large, and reach down to within 6 in. of the floor,

so that a view of the distant country, no less than of the adjoining flower-garden, might be commanded by it. The fire place (*b*) should be on one side of the room, and on the opposite side the doors (*c c*); a recess (*d*) opposite the fire-place, for the sideboard; and another at *e* for a piano-forte, which the lover of music will perhaps think, with me, is much better. At each end of the recess for the piano may be small stained glass windows (*m m*), to throw light on the instrument when it is used by daylight, and yet to be sufficiently subdued not to interfere with the general tone of colour of the room.

Now let us furnish the room. With the assistance of the ladies, we will endeavour to do so. The carpet should be a good Axminster or Brussels, of a well-covered pattern, in circles or octagons, such as used to be common twenty years ago, with rich brown colours, and flowers, &c., of glowing tints; looking as though we were treading on something warm and comfortable, and like home. Or, if the young folks prefer it, we may cover the floor with a Persian-patterned carpet of the present day. The walls, as we have said before, might be crimson, or some lighter, but still warm, tint, covered with engravings of subjects that produce in our minds the most happy and agreeable ideas: no deaths of naval or military heroes; but such subjects as elicit grateful thoughts and feelings; Claude-like views of out-of-door nature, that never can be looked at and dwelt upon without feelings of serenity and thankfulness to the beneficent Giver of all Good. Perhaps, though we do not mean to be extravagant, a favourite painting or two may be added. We would also have a few plaster brackets from the antique fixed against the wall, and painted in a warm tone of colour, or bronzed, with some casts of the busts of our favourite authors, and some of two or three of the most celebrated Grecian vases ornamented with mythological figures, on them, and over our bookshelves. On each side of the fire-place we would have the bookshelves (*f f*), the lower one broad, to contain some old folio copies of our favourites, — Lord Bacon, Dryden, Cowley, Du Bartas, and others, of which we may be the fortunate possessors. On the shelves above may be copies of Shakspeare, Chaucer, Milton, Pope, Cowper, &c., not forgetting our more modern authors, Scott, Byron, Crabbe, &c.; and we would have a scagliola pedestal or two, if we could find room, to support the busts of Shakspeare and Milton, if possible, in stone. We would take care likewise to provide a secure repository for printed music, which young ladies are exceedingly prone to rend and tear. This should be so placed as to be conveniently reached by the performer, and should be divided so that the music may be classified. We would moreover have one or two music desks near the piano-forte, made to fix on brackets, for those who may perform accompaniments; and, as we have not room for a grand horizontal piano, we will choose one of Wornum's new horizontal semi-grands, which, with a facetious perversity, he terms "pocket grands:" these instruments having a tone like an organ. But, had we room, and could afford it, we would most assuredly possess one of Erard's horizontal grand pianofortes, not only for its magnificent sound, but for its extraordinary freedom of touch; in which respect it equals the very best German instruments, while it surpasses them in every other. If the horizontal piano be preferred, it may either stand in the same position as Wornum's, as indicated by the dotted line *g*, or project into the room, as indicated by the dotted line *h*.

The furniture of the room we will have of mahogany, consisting, besides what is already named, of the dining-table and chairs, which should be solid and substantial, and of the finest wood, but plain and uncarved; the whole beautifully French polished. The dining-table we prefer to be circular, which our friends can really sit round, see and be seen, speak and be spoken to; such, in short, as is described in the *Encyclopædia of Cottage, Farm, and Villa Architecture*, p. 829., "as a circular table (*i*), in its ordinary form, capable of dining eight persons; and by the addition of marginal rims (*k*), each 20 in. broad, of dining twenty persons." Of course, the size of these additional rims will depend upon the size of the room, and on the number of persons to be accommodated. If a long table should be preferred, the smallest size should be 6 ft., and the largest 10 ft.; the additional size being gained by detached leaves. The centre of the table should be occupied with flowers, or some ornament not holding any thing required for the dinner; and by this means the dishes will be brought within the reach of the company.

The curtains we will have a geranium-coloured moreen, with gold fringe and binding, and a gilt cornice over, made to draw to and fro. In the bow of the window may be a flower-stand, or small oval table (*l*). The sideboard should be fitted up with every convenience possible (for, as we have before said, we cannot admit closets); and under it we will have a sarcophagus for wine, having means within it for cooling the wine with ice in hot weather.

The room may be lighted at night by lamps suspended from the ceiling; but we prefer a chandelier with candles and metallic wicks, having ground glass shades, and similar candles and shades for the instrument.

In such a room as this, so fitted up, and furnished with a few tried friends, may be realised all we conceive of social and domestic in-door happiness; and there, indeed, should we listen with delight to our favourite song or piece of music; or discuss without alloy the beauties and defects of our long-cherished authors, or of some more recent production of the day.

Manor Place, Paddington, March, 1835.

REVIEWS.

Art. I. *Remarks on the Architecture of the Middle Ages, especially of Italy.* By R. Willis, M.A. F.R.S., &c. late Fellow of Caius College. 8vo, numerous Plates. Cambridge, 1835.

We shall examine this work in detail on a future occasion; in the meantime, to show the architect that it is one of very great interest, we make the following quotation from the preface: — “ The original observations from which the following pages have been compiled, were made during a rapid tour through France, Italy, and part of Germany, in 1832-3. Two things particularly attracted my attention during the journey; the undeserved neglect with which the Italian Gothic had been treated; and the influence of locality upon each style of the middle age architecture. I was soon led to suspect that this architecture was susceptible of much more extended generalisations in its principles than had hitherto been attempted; and I have ventured to point out the road to some of the most obvious.

“ Amongst other objects, I was naturally led to search for evidence that would throw light upon the origin of the pointed arch. There is a fascinating simplicity about that theory, which would derive it from the acquirements of vaulting, that makes one wish to find it true; but I am sorry to say, that, notwithstanding the favourable prepossessions with which I set out, I have been compelled to dissent from this ingenious hypothesis. It appeared, from an examination of buildings belonging to the period of the introduction of this arch, that it was only one of a great number of new forms then introduced into architecture; such as trefoils and ogees. A theory, therefore, that only accounts for one of these, must be imperfect: but this is not the only weak point about the one in question; for, so far from the pointed arch being necessary to enable a parallelogram to be vaulted, it appears that architecture was already in possession of several methods of performing this, which were not even superseded by the introduction of that form, but continued in use to the latest period of the middle ages.

If this theory must be rejected, it may be asked, what other is to be substituted? I do not believe that we have sufficient data to determine the question; but, as so many observers in all countries are occupied in the collection and publication of examples, this deficiency is daily diminishing: in the mean time, I am inclined to think the balance of evidence in favour of the Saracenic origin of these forms.” (*Preface*, p. v.)

Art. II. *An Historical Essay on Architecture.* By the late Thomas Hope. Illustrated from Drawings made by him in Italy and Germany. Royal 8vo, with a Volume of Plates. London, 1834.

Only a limited number of this work having been printed, it no sooner appeared than the edition was exhausted; and, as we have reason to believe that the new edition will contain several improvements, we defer a farther notice of the work till it appears.

Art. III. *A History and Description of the late Houses of Parliament, and ancient Palatial Edifices of Westminster, &c.* By John Britton and Edward W. Brayley. No. III. and IV. for March and April, 1835. 8vo, London.

This accurate and most interesting work goes on well. The letter-press has already extended to 112 pages, and brings down the history of Westminster Palace to the time of Edward II. There is a plan, a section, and three views, in the number for March, and a plan and three views in the number for April, all most beautifully executed on steel.

Art. IV. *Eight Views of Fountains Abbey, intended to illustrate the Architecture and picturesque Scenery of that celebrated Ruin;* etched on Copperplate, from original Drawings by J. Metcalf and J. W. Carmichael: *with a Historical and Architectural Description;* by T. Sopwith. Imperial 4to. Newcastle, 1835.

These views are faithfully and characteristically drawn from nature, and etched on copper in an artist-like manner. The letter-press occupies four pages, and contains a few words on the history and present state of the ruin. "The ruins of Fountains Abbey occupy a sheltered and romantic portion of the valley of the Skell, distant about three miles from Ripon, and forming the western termination of the pleasure-grounds of Studley-Royal, the property of Mrs. Lawrence. Six hundred years have passed since this Abbey was first reared by monastic piety. For three centuries it was devoted to the services of the Roman Catholic Church, and for other three centuries it has been silently passing to decay: but time, with a lenient hand, has clad its walls in the venerable aspect of ruin, and the kindly influences of liberality and taste have preserved it from that devastation which has levelled many kindred fabrics with the earth. 'The mighty carcase of Fountains,' as Whitaker justly terms it, still remains in such preservation as not only to exhibit its architectural details, but also to afford the clearest idea of the relative situation and extent of the several buildings, and of the various uses to which they have been assigned. Founded at a period when the massive and gloomy character of Norman building was giving place to the more chaste and elegant style of early English architecture, Fountains Abbey presents a union of these styles throughout the whole fabric, excepting only the tower and portions of the east end, which are enriched by additions of later date. Whether, therefore, as regards architectural style, the arrangement of a vast monastic institution, or the picturesque beauty of its ruins, Fountains Abbey claims the attention of the architect, the antiquary, and the artist, while historical interest and romantic scenery add their powerful attractions, and furnish abundant sources of contemplation and enjoyment to every visiter." (p. 3.)

Art. V. *A Treatise on Dialing; comprising the Delineation of Sun-Dials, in every Position to the Plane of the Horizon: in Two Parts, independent of each other; the one showing the Geometrical, and the other the Arithmetical, Construction, which are reduced to the greatest Degree of Simplicity by the Adoption of a new Plan, consisting of fewer and more uniform Precepts than have hitherto been accomplished; with a new Method of drawing a Meridian Line, and the Application of the Formula derived from the Trehedral, to the Angles of the Faces and Edges of Pyramids, the regular Solids, and Roofs.* By Peter Nicholson, Architect. 8vo, 58 pages. Newcastle, 1833.

The titlepage of this work sufficiently explains its object; and the name of Peter Nicholson will, to all who are acquainted with his architectural works, be a sufficient guarantee for its mathematical accuracy. The object of the *Treatise* is, to point out such a natural and easy theory for the construction of sun-dials as shall enable every mason or carpenter, who understands a little elementary geometry, to construct a dial for any given situation

ART. VI. *A Lecture on the Preservation of Timber by Kyan's Patent for preventing Dry Rot: delivered by Doctor Birkbeck, at the Society of Arts, Adelphi; December* 9. 1834. *With an Appendix, &c.* Pamphlet, 8vo, 3 engravings. London, 1835.

WE have heard persons assert that it appears to them almost ridiculous to suppose that it ever can become necessary, on a large scale, to perform any operation with a view to render timber durable, beyond that of properly seasoning it by exposure to the atmosphere. But is not this mere prejudice? Why should not timber be prepared by a particular process, which conveys something additional into it, and thereby effects a chemical change in its nature, as well as leather is tanned? Our skin-wearing ancestors had no doubt the same prejudices against the innovation of tanning: but who can now deny its utility?

"A very effectual procedure has taken place, in regard to one form of animal matter, by the preservation of the skin from natural decay in a process known by the name of 'Tanning.' This process will give a very good idea of Mr. Kyan's invention. Tanning consists in protecting the leather and skin by the introduction of tannin, which is generally derived from an infusion or decoction of the bark of the oak. If no change were produced in the gelatine, which makes the largest part of the skin to be immersed in the tan-pit, it would undergo certain chemical changes—it would putrefy, and lose its tenacity; but if a portion of animal jelly is dissolved in water, and a little of the substance added, similar to the tannin, a combination will take place between the tannin and the gelatine; a precipitate will follow of the animal matter, which is the tanno-gelatine, or a compound of tannin and gelatine, and is precisely that substance which is formed in the leather, and gives to it durability and power to resist the causes of decay. The same intention exists in the process of Mr. Kyan. It is true he does not act on the gelatine of animal matter, but he does on the albumen: one of the approximate principles of vegetable matter, which appears to have been slightly perceived by Fourcroy, but which was actually discovered by Berzelius, about the year 1813.

"In order to obtain this vegetable matter (*albumen*), there are various substances which may be employed. The Hibiscus esculentus yields it in considerable abundance: it is a West Indian plant, which Dr. Clarke mentions as adopted in Demerara, for the same purpose, as, in the other Islands, the white of eggs and blood are employed in the process of clarifying sugar. The Ficus indica, also, if divided at the stem, will exude a considerable quantity of this matter. If the solution of the bichloride of mercury (which is the agent adopted by Mr. Kyan) is added to the vegetable matter, albumen, it will be found, when they come in contact, that decomposition occurs." (p. 8.)

"Mr. Kyan who had been for a series of years (since 1812) engaged in trying a variety of experiments on the preservation of timber, was led to the present experiment by having, as he conceived, at length ascertained that *albumen* was the primary cause of putrefactive fermentation, and subsequently of the decomposition of vegetable matter. Aware of the established affinity of corrosive sublimate for this material, he applied that substance to solutions of vegetable matter, both acetous and saccharine, on which he was then operating, and in which albumen was a constituent, with a view to preserve them in a quiescent and incorruptible state, and obtaining a confirmation of his opinions by the fact that, during a period of three years, the acetous solution openly exposed to atmospheric air had not become putrid, nor had the saccharine decoction yielded to the vinous or acetous stages of fermentation, but were in a high state of preservation; he concluded that corrosive sublimate, by combination with albumen, was a protection against the natural changes of vegetable matter." (p. 9.)

"The mode in which the application of the solution takes place, is in a tank similar to the model on the table. They are constructed of different dimensions, from 20 to 80 feet in length, 6 to 10 in breadth, and 3 to 8 in depth. The timber to be prepared is placed in the tank, and secured by a cross-beam to prevent its rising to the surface. The wood being thus secured, the solution is then admitted from the cistern above, and for a time all remains perfectly still. In the course of 10 or 12 hours the water is thrown into great agitation by the effervescence, occasioned by the expulsion of the air fixed in the wood, by the force with which the fluid is drawn in by chemical affinity, and by the escape of that portion of the chlorine or muriatic acid gas which is disengaged during the process. In the course of 12 hours this commotion ceases, and in the space of 7 to 14 days (varying according to the diameter of the wood) the change is complete, so that, as the corrosive sublimate is not an expensive article, the albumen may be converted into an indecomposable substance at a very moderate rate." (p. 25.)

After stating the result of various experiments, Dr. Birkbeck concludes by observing that this discovery is yet in embryo, but that the public benefit that will result from it is beyond calculation. In an *Appendix* the various purposes to which the process is applicable are detailed: such as preventing dry rot, seasoning timber, protecting from insects, applying the process to Canada and British timber, and preserving canvass, cordage, &c., from mildew.

"Canada timber is much more liable to decay than that grown in the northern parts of Europe, and for this reason is never used in buildings of a superior description. The principle of decay being destroyed as above shown, this objection is no longer in existence; and this kind of timber may now be employed with as great security as that of a superior quality and higher price.

"The same observation applies with great force to timber of British growth, particularly to that of Scotland, much of which is at present considered of very little, if any, value for durable purposes, on account of its extreme liability to decay, whether in exposed situations or otherwise. The present process will therefore render of considerable value plantations of larch, firs of all kinds, birch, elm, beech, ash, poplar, &c., which are the chief products of the great wooded estates, and which, when prepared, may be advantageously employed to most useful purposes." (p. 36.)

"*Purposes for which the Prepared Timber, &c., would be highly useful.*— Houses, farm-houses, out-houses. Large timbers, floors, roofs, gutters, &c., furniture, and all joiner's work, preserved from dry rot, and perfectly seasoned.—Posts, rails, gates, park paling, fences, hop-poles, felloes, spokes, shafts, &c. &c. For these purposes any kind of timber may now be used, instead of the more expensive kinds. It will also supersede, in many cases, the employment of iron, from its acquired durability and greater economy." (p. 37.)

The additional expense of preparing timber for buildings, such as houses, farm-houses, out-houses, &c., in Mr. Kyan's manner is estimated at the very moderate sum of 20s. per load.

MISCELLANEOUS INTELLIGENCE.

Art. I. *Retrospective Criticism.*

THE Birmingham Town Hall. (p. 16.)—In this comparatively secluded spot we are late in obtaining news; and I did not see the January Number of your Magazine until within a week or two ago. The article which appears there relative to the Birmingham Town Hall is in many respects not only calculated to mislead your readers, but is grossly unjust as regards myself; and, what is worse, it is intentionally so, with the "*knowledge and aforethought*" of the writer. The points of which I have to complain are, in fact, all that is important in the question of assigning the merit of the design of that building to any individual; and, as public approbation has been unequivocally bestowed upon it, my anxiety on this subject cannot be deemed misplaced, or my efforts to be rightly accredited, as making "*much ado about nothing.*"

It happens fortunately for me, that, in the declaration I am about to make, there needs scarcely a single reservation; and when I state that the design of the Town Hall is as much mine as St. Paul's Cathedral was that of Sir Christopher Wren, I state solemnly and sacredly the truth. It is quite true, that the site of the building, and the height, length, and breadth of the Hall, were prescribed; and, what I lament, the tasteless and absurd galleries which permanently disfigure it. It is also true, that, at the suggestion of a gentleman connected with the musical arrangements, an alteration was made in the interior decoration or finish of the walls, by substituting Corinthian pilasters and cornices, for an adaptation of the Ionic antæ which I had designed; but, with these exceptions, I can take up the plans, elevations, sections, and working drawings, and declare that, line for line, there is not one that can be pointed out as the suggestion, or that was based upon the idea, or imagination, of any living being besides myself. Mr. Welch was my partner at the time of making these designs; but I never required from, or asked of, him any assistance; unless it were to copy a plan, or a portion of one, or to ink-line or tint some such, or to write upon the face of the drawings the description I wished to accompany them (as he writes a neater hand than I do): in fact, he did nothing but what a junior clerk would have done if beside me; and I am quite content to rest my case upon his own answers to questions embodying what I now allege. He cannot deny that which he has already on a hundred occasions admitted; namely, that the whole matter was left to me; and, if he is asked why it was so, he must, if he answers honestly, say that he felt himself less competent, and involuntarily submitted to my leading, as I should to his, had the case been directly the reverse. In advancing these things I have not the slightest wish to depreciate him, or magnify myself; the question is, not whether Mr. Welch were capable of the task, but whether he contributed to it at all; and if he did, what was his share of the contribution.

If the information contained in the article of which I complain proceeds from Mr. Welch, as I believe it does, why has he not had the honesty to state that he gave in his own designs for the Town Hall? He was, in fact, a competitor with me himself, as on two previous occasions for churches, and in all three cases without a chance of success; while in both the latter instances my designs were instantly adopted, and in that of the Town Hall, singled out of the sixty-nine that were sent in, along with those of Mr. Barry and of Mr. Rickman, for the premiums. I am not disposed to be severe, or to characterise his account in the terms it deserves; or I should at once make public his designs for the Town Hall, and leave those who look upon them to judge of the probability of his being author, or even in part author, of those inserted in your Magazine; but my object is simple justice for myself; and that part of the press to which is entrusted the guardianship and vindication of those who labour in the arts, will, I have no doubt, see that justice is eventually done me.

Many of your readers will recollect the date of the competition for the Fishmongers' Hall; and will remember that it did not take place till nearly a twelvemonth after that for the Town Hall at Birmingham; they will be astonished, therefore, as I was, with the sentence in the article from which I quote, which states, that the design for the latter building "was one jointly produced by Messrs. Hansom and Welch two years before, and which was intended for the Fishmongers' Hall, London!" The designs that were made for the Fishmonger's Hall, purporting to be those of Messrs. Hansom and Welch, were made in the month of December, 1832, by my own hand from my own sketches, and were the result of my own studies, equally with those for the Birmingham Town Hall.

I must apologise to your readers for the length to which I have gone in this apparently personal matter; and it has been no little violence to my own feelings to have thus to parade myself, as it were, before the public; but, as my reputation has been dealt unjustly by, I owe it to my children, whose *bread* it is, to speak out. More I could say, but it may not be necessary, although I have determined to lose no opportunity in future of asserting my right. I have also chalked out for myself the achievement of one other task in connection with the Town Hall, and that is the repayment of all who have lost thereby; and I wish not to be disturbed from the pursuit of this end. I feel that I have no right to call upon the public to make good my mishaps, and I know that public bounty is rarely exercised, except in the ligitimate channels of buying and paying for a man's usefulness; this article, therefore, I am anxious to contribute to the general stock as largely as I can, in the hope that it may procure me that which will enable me one day to have the pride of paying for that building, for which in labour and suffering I have expended my utmost, and incurred all that the slights of the gross and coarsely minded have ever heaped on my predecessors in the cause of devotedness to the fine arts. — *Joseph Hansom. Hinckley, March* 5. 1835.

The New Bauschule at Berlin.— Admitting that the opinion passed upon this production of Schinkel's, at page 190. is tolerably correct, so far from taking any pains to confirm it by any plausible criticism, the writer has either most carefully or most carelessly suppressed an account of every thing that distinguishes it; so that it is impossible for any one to guess that it is as dissimilar as possible from what he is pleased to compare it to, namely "a sugar refinery." I will not call this uncandid, because it will be enough to show that it is excessively indiscreet; presuming too much upon the utter ignorance of your readers respecting the building in question. I certainly have not seen the edifice itself, and therefore cannot speak with confidence as to the effect; yet, if any judgment is to be formed from the beautifully executed designs and details of it, which form No. 20. of Schinkel's *Entwürfe*, it is precisely the reverse of what might be inferred from the injurious comparison above stated. It is, in fact, particularly remarkable for the care bestowed on the minutiæ, for the variety, delicacy, and taste of its details, and for the careful finishing up of every part. That it is not calculated to produce "love at first sight," I am aware; it being one of those things which require to be fully examined before they can be satisfactorily appreciated. The style itself is certainly *sui generis*, and therefore not at all likely to answer the expectations of those who have made up their minds beforehand that an Academy for Architecture ought of course to exhibit what is significantly enough termed "regular architecture." Probably it is the absence of columns and other features copied from Grecian example, and its being built of bricks instead of stone, that may have led J. H. somewhat too hastily to fancy it bears a resemblance to a "sugar refinery." For the like reason, no doubt, a correspondent of the *Athenæum*, the same who sneers at Munich as a "band-box capital," reprobates the *Bauschule* at Berlin, without deigning to criticise it, and, in not doing the latter, he most probably consulted his own particular convenience. As to his opinion on the subject of Munich and its buildings, I leave him to settle it with Mrs. Jameson; but, in regard to Schinkel's building, why did not so clever a critic hold up *in terrorem* to those here at home the shocking defects he detected in it? Most certainly it is not "classical" in the usual acceptation of that epithet, which is too frequently applied to the most arrant plagiarisms; yet it exhibits more study, more ideas, more of mind and invention, than a score of so-called classical designs.

To go no further than a single particular, there is more detail and design put into the doors alone, than some architects who might be named put into any two of their entire fronts; and, after what J. H. has said, this must appear all the more astonishing, because such is far from being the case in any "sugar refinery" ever yet erected. Built of brick, however, the *Bauschule* incontestably is; yet, with what kind of fairness it can be said to be built of "raw bricks," I leave others to judge, when informed that they are of very superior quality; that the greatest attention has been paid to execution; and that all the ornamental parts, sculptures, and bas-reliefs are in terra-cotta. Provided it be at all suitable to the style adopted, brickwork of this description is so far from being necessarily mean, that it is susceptible of no little intrinsic beauty in itself alone. We have several old mansions in this country which sufficiently attest this, and prove what richness of form may be produced simply by means of moulded brick. In Norfolk alone, both East Basham Manor House, and the modern and yet unfinished structure of Cossey Hall, are striking examples of the splendour that may be produced with what seems to be the very homeliest of materials. On this subject, however, I cannot do better than refer your readers to the 29th chapter of Hope's *Historical Essay on Architecture*, and the note attached to it. "The later pointed churches at Milan, at Pavia, at Monza, and elsewhere," he observes, "are entirely of brick, even to their most delicate tabernaclework and tracery." He also states "that the Romans considered brickwork fit for all the elegancies of ornamental form."

So far, therefore, from agreeing with what is insinuated as to the peculiar unfitness of the *Bauschule* for its purposes, as far as taste is concerned, I rather consider it intended by its architect as an impressive lesson to the pupils; namely, that, instead of labouring how they may produce a more or less exact imitation of an ancient temple, they ought rather to strive to produce beauty of another kind, under other and widely different circumstances. Schinkel may consequently be considered as an exception to the concluding remark of Mr. Hope's book; for in many of his designs he may almost be said to have borrowed of "every former style of architecture whatever it might present of useful or ornamental, of scientific or tasteful; of having added thereto whatever other new dispositions or forms might afford conveniences or elegances not yet possessed." He has at least opened a new path, and pointed out how, if it may be accomplished at all, we may compose for ourselves a new architecture, "at once elegant, appropriate, and original, and truly deserving the appellation of OUR OWN."—*L. S. London, April* 7. 1835.

Huskisson's Monument. (Vol. I. p. 381.)—The note on this monument is erroneous. My remarks did not apply to Huskisson's monument, but to its prototype, the Choragic monument of Lysicrates.—*J. A. P. Liverpool, Dec.* 1834.

Errata.—In the Glossarial Index, Vol. I. p. 394., for "side pieces" read "head pieces." In Vol. I. p. 317., for "Kingston" read "Kingstown;" the place having been so named by George IV. when he embarked from it in September, 1821. It was formerly called Dunleary. By the railway the journey between Dublin and Kingstown, a distance of five miles, is performed in fourteen minutes.—*John Tate. Queen Street, Dublin, March* 17. 1835.

ART. II. *Queries and Answers.*

GERMAN Fire-places.—In answer to the query of our correspondent, M. de Ridder, p. 144., a copy of M. Bernhardt's Prospectus has been sent us enclosed in a letter signed Alexander Black., 27. Tavistock Street, Covent Garden. The prospectus promises a great deal, but developes nothing farther than that it is intended, in the first place, to get up a company to carry the improvements into execution. We shall watch the progress of this business, and make the result known to our readers, as soon as it can be of any use to them.—*Cond.*

Warming Churches.—Within this last month a method of warming churches and chapels with gas, instead of steam or hot water, has been established with very good effect. Can any of your readers give me an idea as to how it is accomplished?—*Tyro. Wilmington Square, March* 2. 1835.

THE

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ORIGINAL COMMUNICATIONS.

Art. I. *On the Necessity of Concord in Architecture, with Reference to the Production of a Whole.* From the French of Quatremere de Quincy. By P.

The term concord, which particularly relates to music, is likewise metaphorically applied to other arts; as, for instance, to painting, in the blending of colours, and the effect of light and shade. This term is made use of by architects relatively both to the designing and the shading their plans; and still further with regard to the distribution of ornaments, the arrangement of parts, and the unity of style and character.

We distinguish, in architecture, two sorts of concord; the one signifying agreement in composition, and the other agreement in taste and style. The first consists in a correct judgment, which admits nothing useless, which combines the plan with the elevation, which calculates all relative dimensions, which adapts the exterior decoration to the interior, which satisfies the eye with every appearance of solidity, and the mind with a concordance of the parts with the whole. This species of concord does not strike the senses much at the first glance, but the gratifications it produces are continually renewed; for those edifices in which it is found can never be revisited without discovering new reasons for the pleasure experienced; and this pleasure is one of the highest to be derived from architecture, when it is the result of a satisfied judgment. Such is the impression received from the sight of Grecian edifices, more particularly of the Doric temples. These temples are, indeed, the finest models known of that perfect concord which, by uniting all the different parts of architecture with one another, renders the agreeable useful, and the useful agreeable. It is concord which presides particularly over the choice in ornaments, which dispenses them sparingly and judiciously, and rejects all the parasitical details of an attempt at false magnificence; the counterfeit variety of which destroys alike unity, the idea of a whole, and the harmony of a building.

This kind of concord, though one of the highest excellences of architecture, is seldom found in modern edifices. There can be no concord in the plan of a building, when the interior is after one fashion, and the exterior after another. There can be no concord in the elevation of a church which has several orders arranged on its frontispiece, while the inside can only allow of one. There can be no concord in the decoration of a palace, the front of which is ornamented with columns that are often useless, and the details of which present, by their over-simplicity, a glaring contrast between the florid and the mean. This want of concord is very remarkable in many of the most important modern monuments of art, where the columns only appear like ornamental excrescences, placed on purpose to cause the nudity of the rest to be more sensibly felt.

The second kind of concord of which we have spoken, and which we termed agreement in taste and style, depends upon the union of the arts amongst themselves. It exacts from the artist a practical knowledge, and habitual exercise, of all those other arts that contribute to the embellishment of architecture. In edifices, it produces that identity of character, and that unity of style and manner, which give to the erection the appearance of having been the work of one man, and which leaves room for doubting, from the air of similitude which reigns between the decoration and the construction, whether the decorator was the architect, or the architect the decorator. This perfection is to be met with in the fine works of the ancients. As the arts were then united amongst themselves, so one was scarcely ever followed to the exclusion of the others; whether the architect executed all the parts of an edifice, or whether he confided their execution to cooperators, one understanding alone always presided over the construction of the work; and, as one mind had directed the whole, the effect was single, and the impression undivided.

With the moderns it is not thus; every art in its practice is isolated from the rest. Architecture, in particular, must lose by this system. From it proceeds those dissimilarities often apparent in edifices, the construction of which was given up to artists acting without concert, and often without any knowledge of each other.

It is not only by the employment of different artists without any reference to a leading or master artist, in the first erection of a building, that discord instead of concord is produced: the same result is the effect of repairing a building, either at different periods by the same artist; or by different artists at the same period; and still more so is this end produced by the employment of different artists at different periods. Unity of mind, and unity of action and direction, can alone produce concord either in music or in architecture.

ART. II. *Remarks on Forsyth's Architectural Opinions.*
By VERUS.

"No hay en mi animo tan osado, que intente zaherir á nadie; ni tan satisfecho, que piense enseñar á algunos."

"I have not the boldness or the wish to offend any one; nor the conceit to hope to convince some persons."

YOUR correspondent, Candidus, who appears, in p. 148., as the criticiser of Forsyth's architectural opinions, is at least ingenious in one respect; in that he has made the first two pages of his commentary confute the whole of his subsequent arguments. By disjoining and rearranging the parts, we are enabled to put the truth of this observation very clearly before the reader; and, at the same time, to effect this without garbling or treating his remarks in a way in the least degree unfair or illiberal.

The strange inadvertency into which assailers of an author or a system, in the gross, are not unfrequently betrayed, is eminently displayed in that part of his letter which refers to Forsyth's disparagement of the architecture of the doge's palace at Venice; he endeavours to expose the falseness of taste shown in not admiring that edifice, by a string of arguments, all of which apply with greater force to himself, when he appears as the indiscriminate decrier of Palladio. We are neither blinded to the fact, that Forsyth's opinions ought to be received with caution, and that they are apt to mislead, nor that many and serious defects are fairly to be ascribed to the Palladian system. But, on the other hand, our eyes are not sealed to the more obvious fact, that the present critic of Forsyth, in blaming what he admires, and approving of what he censures, has overstepped his mark, and upset his argument. We undertake to place him in this dilemma; that, if he would have us believe in the architectural beauty of the ducal palace, then are we, by his own showing, also bound to do so in that of the elevations of Palladio. If, on the contrary, he wishes us to adopt his view of the Vicentine artist's merit, then he abandons the claims set up for speculative beauty in the appearance of the doge's palace. But of this more anon. Candidus expresses a wish "audire alteram partem;" the "altera pars" is furnished by himself to our hands.

We ask, is it common sense to say there is hardly a single beauty in Palladio's buildings, and at the same time to cite with approbation Vanbrugh, as ponderous and clumsy in practice, as the Italian was elegant and magnificent? Or could he find no better architects in the list of native talent, than the authors of Thornbury and East Basham? and could he rest his opinions on no better authority than on that of the painter, Mr. Williams, who, with eminent talents in his own profession, never pretended to deep knowledge in architecture.

If all countries, at all times, have been wrong in their estimate of Palladio, at all events, the world has never much erred in that of the three architects just named; because their talents were not such as to procure for them what may be called a European reputation. Candidus gives a catalogue of defects collected from Palladian elevations; but what shall we say of that sort of criticism which makes out a specious and ex parte case by diligently surpressing all notice of those features in composition which may countervail acknowledged faults? Candidus is undeserving his name, if he is ignorant that all the defects he enumerates are as fatal to the reputation of Inigo Jones, Sir C. Wren, and Sir W. Chambers, as to that of Palladio. We should rather that he would boldly announce that which is left to be inferred from his arguments; viz., that, from the period of the revival of arts to the present day, England has seen no good architecture; for upon the condemned style all celebrated artists have founded their taste; and, at the same time, he might correct a popular opinion, that the productions of the present day cannot sustain a comparison with Whitehall, Somerset House, and St. Paul's church. To proceed in our examination: no one can deny that Palladio has in all countries been regarded as the first architect of modern times. How are we to account for this? Why, in the very words of Candidus, whereby he reproves Forsyth for want of taste in criticising the elevations of the ducal palace of Venice. "A piece of architecture," he truly says, "may have several individual blemishes, and yet may be admirable as a whole; while another may have not a few individual beauties, and, nevertheless, be sadly deficient or insipid, taken as a composition. It is the contrast of flat and fretted that imparts such an indefinable charm, and so much expression and picturesque character, to the ducal palace;" and the same observation will apply to Palladio's elevations, with the important addition of proportion and organisation; and neither the one nor the other is discoverable in the exterior of the ducal palace. Again we quote Candidus's words, as describing our opinion of his strictures on the palaces of Vicenza: — "He seems not to have recognised in them any poetic quality, which, if architecture is at all worthy of being classed with the other fine arts, is assuredly the one that bestows on it its best claim to such rank." "We thank you for these words," which, in our humble opinion, apply completely to the one case, and very imperfectly to the purpose for which they were penned. Suppose the existence of all the blemishes, and more than those, brought forward by Candidus in judgment against Palladio; still he supplies us with an excuse for them, and a triumphant answer to those who can only detect faults in detail, and cannot comprehend a composition. "It surely," he says, "was incumbent upon a philosophic critic, to endeavour to account, if possible, for the singular fascination which charms us in structures wherein there is so much utterly opposed to architectural doctrine." We shall not weaken the point, truth, and force of this remark by adding a single word to it. In the brightest periods of art, through good report and bad, these structures have never been considered by the intelligent to be deficient in character; and it is peculiarly in that quality Palladio is eminent. Hence the fascination of his style.

With respect to the doge's palace, we are not disposed to enter into too close a scrutiny of its intrinsic merit, considered as a piece of architecture. It is ennobled by age and a thousand historical and romantic associations. But we are not so little unphilosophical as to be ignorant that from such causes springs much of the interest with which we behold this vast and time-honoured fabric. Forsyth has directed his criticism against it. It is not that he has not proceeded on just grounds — on sound principle; but that he has failed to do justice to its adventitious merits; and, consequently, the feelings of his readers repel the tone of his criticism. It is for reasons which appear to have escaped the notice of his commentator that the edifice is generally admired. "That it has no little fascination for painters," is no proof of its fine architectural character. That proves either too much or too little; since the same line of argument would establish, that every crazy tottering old cottage or gable, in short, any thing that is picturesque in the eye of a painter, is really a fine piece of architecture.

Candidus is a sort of Proteus: at one time he appears a great stickler for purity of style; at another, the advocate for the utmost license. Thus the massive pendants of a fretted Gothic roof are to be admired, although he allows that "they appear ready to fall down and crush us." Such witticisms in architecture (as they have been well denominated) are not only contrary to common sense, but destructive of the pleasure we take in contemplating any beautiful or symmetrical object. For this reason, while the vaulted roofs of King's Chapel, Cambridge, and the cloisters of St. Stephen's, Westminster, are equally rich in pattern as the tracery overspreading the ceiling of Henry VII.'s Chapel, they are assuredly far more pleasing.

Our author, in the same indulgent spirit towards monstrosities, insists on the propriety of imitating, in modern practice, the strange fantastic chimney stacks seen in Venice, the Ionian Islands, and in different parts of the Levant. Herein he relies much on the authority of Mr. Williams, who observes, that "more variety and taste are occasionally displayed in the chimneys, than in the buildings to which they belong: as peculiar and characteristic as palm trees in a classical climate, they impress us strongly with the idea of distance from home," &c. We confess we are not quite able to understand Mr. Williams's sentiment; but, if we had time to make the draught, we would offer a few woodcuts selected from that traveller's book; and our readers would then be able to judge of what nature this variety and taste really is. But why, we ask, go to the East for examples? Our Gothic monuments offer better patterns, and in almost equal variety, at home. If it is only fanciful forms that are sought, "with a view to break the formality of the straight lines of roofs," the Bank, State Paper and Privy Council Offices, and other works of living artists, present us with an abundance of quaint and variously formed chimneys within the precincts of London.

After well examining the article before us, and asking ourselves what principle we deduce from it, what the author wishes to inculcate, if the answer be not, that the doge's palace and the chimney stacks of Venice are more worthy of imitation than the works of the great masters of Italy, and, consequently, of Wren and Chambers, and all architects up to the present day, we are at a loss to understand the drift of the arguments of Candidus. We are willing to concede, with certain reservations, that the government palace of Venice is admirable, and is an imposing mass; and we allow that defects are justly attributable to Palladian elevations. But we repeat the writer's own quotation from Forsyth, "that what is not to be admired, may yet be found in admirable works;" and we cite a passage that he might have met with in the book of his favourite authority, Mr. Williams:—"The liberal and discerning mind will not dwell on faults, but will endeavour to discover, through the detail, those leading features which give a superior air to Italian buildings." The common consent of ages, and the best reason of modern times, have pronounced many of Palladio's works to be admirable; whilst all ages, since the revival of letters, have been silent on the architectural merit of the doge's palace; therefore it might be concluded, that what has invariably received the homage of admiration, has more merit than what has scarcely, if ever, been mentioned with applause. Candidus has reversed the case. With new lights, and the exposition of a doctrine unsustained by reason or principle, he exhibits the picture of a reviewer supporting the authority he undertakes to overturn. We recommend to him the strict observance of the promise with which he concludes his letter, "that he does not wish to dogmatise." With this caution we conclude, and, since he has appropriated the name of "Candidus," which had better designated us, we beg to sign ourselves,

VERUS.

Art. III. *Remarks on the Architectural Museum of Sir John Soane.*

By Candidus.

[Our readers may recollect that in March last a deputation of architects presented a medal to Sir John Soane, which was struck in his honour at the expense of a number of architects and others. An account of what passed on the occasion, with the different speeches at length, will be found in the *Literary Gazette* and the *Athenæum* of March 28. 1835.]

It is Goethe, if I mistake not, who somewhere remarks that, "although people may be fond of sugar plums, they do not like to be knocked down by loaves of sugar." Of ponderous sugar-loaf mode of complimenting there was, nevertheless, an extraordinary display upon a recent occasion, when the gentlemen who presented a gold medal to Sir John Soane thought fit to accompany it with panegyric so bombastic, as not only to throw discredit upon their taste, but upon their sincerity likewise; and this is all the more singular, because, instead of being spontaneous, these oratorical effusions were prepared beforehand, and, consequently, the indiscretion they betrayed admits of no excuse on the grounds of hurry and surprise.

Whether their expressions of devoted admiration and regard might not have been better timed, and worn a less suspicious appearance, had they come forward earlier, and borne their testimony to *Mr*. Soane's professional abilities, when they were rudely called in question by those who thought fit to asperse his taste, other persons can judge as well as myself.

The speeches were all eminently curious, and one or two passages in them officiously indiscreet, by calling attention to what prudence would have passed by in silence, and good taste would no less carefully have avoided touching upon at all. Instead, however, of dissecting them, I shall confine myself to one point of animadversion; namely, the clumsy compliment bestowed upon Sir John's "unbounded liberality" in forming his own museum and collection of books. If his liberality could not be commended, except at the expense of his taste, the less notice that was taken of it, the better. If, on the other hand, with ample means of doing so, Sir John was gratifying his taste and his love of art, while expending his money upon such objects, it is not very easy to perceive how he is entitled to praise for his "unbounded liberality," or, in fact, for more liberality than his neighbours, in merely pleasing himself.

This *mal-à-propos* piece of eulogy is not calculated to give the world any very high opinion of the professional gentlemen who consider it a kind of prodigy that an architect should indulge in his pursuit at all *con amore*, or take any interest in the literary and ornamental studies connected with his art. Until the world was thus undeceived, it might have given them credit for showing the same "liberality" to themselves (although upon a minor scale), according to their respective means of doing so; whereas the admiration they have, so incautiously for themselves, expressed is a tolerably plain admission that Sir John's example is quite unprecedented.

The rule of *omne ignotum pro magnifico* may, therefore, excuse their election of the word "choice" as a suitable epithet for Sir John's library of works of art. To those unversed in the bibliography of architecture it may appear such, but to them alone. Unless a collection excluding nearly all that is most rare and valuable in its particular department deserves to be so called, the epithet was singularly ill chosen.

None of Sir John's bookshelves, I believe, are encumbered with the folios of Wiebeking, Seroux d'Agincourt, Sulpice Boisserée, Cicognara, Melling, Choiseul-Gouffier, Schinkel, Costenoble, Murphy, Hirt, Stieglitz, Moller, Baltard, Quarenghi, Gutensohn, Ruhl, Rusca, Hittorf, Stackelberg, Gautier, Zahn, Durand, Klenze, Houel; nor with such works as the *Description de l'Egypte*, the *Museo Borbonico*, *Museo Pio-Clementino*, Cicognara's *Storia della Scultura*, Cotte's *Architecture Arabe*, Temanza's *Vite degli Architetti Veneti*, Cean Bermudez's *History of Spanish Architecture*, *Les Eglises Principales*, *&c.*, Antolini, Calderari, and numerous other publications of a similar description. An index expurgatorius of the works that have not found admission into this "choice" collection, would be infinitely more valuable than a catalogue of what it actually contains. It must not, however, be understood, that any of those above mentioned are at all difficult of acquisition from their rarity; although their cost must render the attainment of them, in any number, impossible to those who are not gifted with wealth, as well as taste. Nevertheless, I can vouch for many of them being possessed by persons whom the world would style poor, and who certainly have not had the good fortune, if such it be, to be extolled for their "unbounded liberality" in so gratifying their inclination.

As regards Sir John Soane's liberality in bestowing his museum and library on the public after his decease, that is a different matter, although one which, at the time it was first announced, drew forth nearly as much obloquy as compliment. Considering that it is a voluntary gift, it might have been less shackled by restrictions, which, although they may not interfere with the donor's principal view, must abridge its usefulness for purposes of study, since it appears the museum is to be opened only a few hours on certain days in the week, and that, too, at times when it is likely to be mostly filled with mere idlers and loungers.

It is rather surprising that, instead of ordering his museum to be kept up in a private house (the occupant of which will thus be subjected to some, although to no very great, inconvenience), Sir John did not think fit to incorporate it with the Dulwich Gallery, providing additional apartments for its reception. Nevertheless, he may be of opinion that, notwithstanding it is erected by himself, that building hardly deserves to be so honoured, or would not do much credit to the architectural taste of the founder of an architectural museum. Or he may have been dissuaded from this scheme, by the apprehension that his collection is indebted for much of its importance to its being crowded into a few small rooms, some of them of merely closet dimensions, and would, of course, appear far less striking in any other situation.

However, I do not intend to pursue any further what will doubtless be considered an invidious, if not an impertinent, train of remarks; and although " unbounded liberality," most assuredly, is not manifested in the arbitrary conditions which will deprive the Soanean museum of nearly all its real usefulness, if the public are glad to receive the boon upon any terms, let not me put them out of conceit either with that or with the generosity and munificence of the donor. At the same time, I cannot possibly recommend an exact imitation of the bequest to those who may in future be disposed to emulate Sir John's example; but trust that, if they give any thing to the public at all, they will give it freely and unreservedly, and wholly exempt from vexatious limitations and provisoes.

And now, whatever others may think, I have, in my own opinion, been excessively lenient towards all parties, and to one most especially, the bombastic pathos of whose speech, on the day of presenting the medal, would furnish matter for some really bitter observations. Pretending to be a " sugar plum," it proved a " sugar loaf" of most startling magnitude. It is a pity that discretion should have been so entirely laid aside upon the occasion. If the speech-makers did not care to set any bounds to their fulsomeness, the least they could have done was to prevent its transpiring beyond the walls of the house in Lincoln's Inn Fields. As the subject of such farcical flattery, Sir John Soane is, perhaps, to be more pitied than censured; but what can be said in favour of the persons who could prevail upon themselves to utter such solemn humbug and fudge?

London, April 28. 1835.

ART. IV. *Remarks on the Necessity of Unity of System and Style in making Alterations in, or Additions to, Buildings.* By Edward BRIGDEN, Esq., Architect.

AMONG the many errors into which architects of the present day are accustomed to fall, is the practice of making additions to buildings already erected, in a manner which does not accord in any way with the general character of such edifices.

There always was a fashionable style in architecture, to which all other styles were made to succumb, as is the case now; and thus, when the architects of the time of Charles II. repaired a Gothic cathedral, they generally introduced the prevailing Italian mode of the day. Just so many architects of our time, with no better taste (though, by the by, they reprobate our ancestors), make use of the Grecian style upon all occasions. This is not so observable or displeasing when the principal structure appertains to no particular style, and has no marked expression of character, or where the ornaments of the addition are not too glaringly contrasted with the old work; but it often happens that an embellished Palladian front is garnished with columns of pure Athenian form and detail; often may we see a centre covered with ornament, and crowned with balustrades and vases, flanked by new wings of severe and plain Grecian character; or a strange distortion of the Greek form united with an arcade or Roman corridor. Those who do these things ought not, in common justice, to blame Inigo Jones for the improvement he thought he made in Old St. Paul's.

On comparing our present extended architectural information with that of our predecessors, we shall find that no excuse can be given for our not availing ourselves, when circumstances seem to command it, of all the sources of design distributed through the different styles with which we are acquainted; and although a person may admire to enthusiasm the architecture of Greece, and always introduce it into new buildings, still he may conscientiously consider himself the disciple of Palladio or Wren, when employed in altering a house built in the style of the revival school.

These observations may often apply to shop fronts; for we frequently have occasion to blush for the coarseness of detail in the upper part of street houses, when compared to the antique purity of the shop below. But, as I before remarked, it often happens that a house is not sufficiently of an architectural character to claim a preference for any particular style; in this case, of course, no one can object to the architecture of the Greeks being made available for alterations or additions.

ART. V. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. JAMES ANDERSON.

(*Continued from* p. 210.)

On the Progress of Gothic Architecture. — I am afraid that some of my readers will be dissatisfied at being so long detained in tracing the progress of an almost unknown, though very enlightened society of men, which sprang up in an age of such universal darkness, that little else has been recorded of them but their name; which has been, indeed, transmitted to our days, though under such clouds of obscurity as to convey no idea of its original splendour. To those, however, who wish to trace the progress of the human mind, and to contemplate the powers which man may attain when his energies are suffered to be steadily exerted for a sufficient length of time on one object, without experiencing the deadening effect of any restraining influence, such an investigation must be peculiarly interesting. In the hope, then, of compromising the matter between these two classes of readers, who may be supposed to be mutually inclined to yield a little to each other as occasion may call for it, I shall now proceed to lay open a few more circumstances illustrative of the attainments of the society of *free-masons* during those dark periods of time which we now call the middle ages.

Long before the period which now engages our attention, considerations of great weight had induced the Christian world to make choice of the form of a *cross* in preference to all others, for structures that were to be appropriated exclusively to divine worship, and of course our artists were restricted to that form in the churches that they were to rear. The wide opening, therefore, in the middle of the church, of which we have already taken notice [p. 208.], and which was technically termed the *nef* or *nave*, was crossed at right angles at some distance from either end by a similar opening, which was called the *transept*, which last was usually extended in length considerably beyond the width of the church. In consequence of this conformation, our artists felt themselves subjected to a twofold difficulty, which it behoved them, if possible, to overcome. The first was that of providing a proper abutment for the large arches, where the interruption took place at the transept; and the next was, to give light to this central area, which, without some contrivance for this purpose, must have been the most obscure part of the church, on account of its great distance from the windows placed at the ends of the cross. They were now, however, in a train to be able to discover how these defects might be both remedied at the same time. By raising a wall to a considerable height above the four wide arches which formed the central square, they added the weight of an abutment above the pillars, so as to give them the proper degree of stability, and by placing windows in these walls when thus carried higher than the roof of any part of the structure, they obtained there an irradiation of light, which, without dazzling the eye, communicated to this part of the building a softened splendour that could not have been otherwise obtained, and which gives to these structures a lightness that conveys the sensation of a supernatural influence, which is not experienced in any of the other structures wherewith we are acquainted. This sensation is experienced by every person whose mind is susceptible of such impressions, when he finds himself first placed within the sphere of its influence, whatever his situation in life may be, from the meanest beggar to the most exalted monarch in the world, and without the smallest intervention of reasoning on his part. Nor can it be doubted, that these artists themselves, when they first experienced its effects, must have been highly delighted with their good fortune in having been able thus happily to succeed in this the great object of all their wishes: neither need we be surprised, when we advert to the effect it must have produced upon the minds of the numerous visitors who would flock from all quarters to see it for the first time, that princes and prelates should put so much value on these unlooked-for attainments, as to deem the acquisition of such artists an object of sufficient importance to call for the most solemn embassies from one nation to another, in order to obtain them; as we know to have been frequently the case, on the evidence of documents that are still preserved, and which have been sometimes quoted by unthinking ignorance as specimens of the puerilities of the times. If these were indeed puerilities, it will be at least admitted that they were puerilities of a more harmless sort than wars, destruction, and pillage, carried on by one nation upon another for the acquisition of objects of taste, whose influence will not be so universally recognised, and whose value is at least of a more problematical kind.

We are thus led to discover the origin and primary uses of those central towers which constitute such an important part of Gothic cathedrals; and which laid the foundation for one of the most pleasing discoveries in architecture that have been achieved by man, and that contributes more to heighten the beauties of nature than, perhaps, any other work of art, because of its more general diffusion on account of its facility of execution, than any work of equal beauty. The reader will easily conceive that I here allude to church towers and ornamental spires of every sort, which tend so much to diversify and enliven the prospect in every country in Europe, at almost every step that a man makes in his progress through it. Let him but for one moment suppose that all these were annihilated, and that the world were reduced to the same situation in this respect as it would be during the most flourishing periods of antiquity, and he will be confounded at the immense inferiority in point of general effect between them. Take away the spire of the peaceful village peeping at times between the varied openings of the tufted trees — what a beauty would be lost! But I must not enlarge on this bewitching subject. I only just touch upon it, that the reader may not entirely lose sight of those humble artists, who, like Milton, and many other geniuses of the most exalted cast, have been too long deprived of that fame which was so justly their due. In paying this homage to departed merit, I feel a sort of melancholy satisfaction, like that of one who collects together the earthly remains of a great man, which had been subjected for many ages to the most cruel indignities, to give them at least an honourable burial. This is a weakness I will allow; but it is a weakness that ought to be tolerated with indulgence.

I call spires a modern invention, not because there was nothing of a similar sort in ancient times, but because they are constructed upon principles wholly different from any of those; and are adapted to answer the various purposes alike of utility and ornament with a happier effect, and at an infinitely less expense than any of the structures of antiquity. I do not forget the temple of Belus, otherwise called the tower of Babylon, nor the pyramids of Egypt; those stupendous structures, whose magnitude alone can never fail to make a strong impression upon the mind of every person who can have an opportunity to see them. I forget not the obelisks of Egypt, which have been with such a happy propriety called by the French *Les Aiguilles de Cléopatre,* Cleopatra's needles; neither do the pillars of Pompey and of Trajan, nor the colossal statue of Rhodes escape my memory; all of which tended, in some measure, by rising above surrounding objects, to enliven and beautify the scenes in which they are placed. But these, in effect, independent of number, can never be compared to modern spires, which admit of such an infinite diversity in form as well as magnitude, as to adapt them to every variety of situation and circumstances. The obelisk at a distance appears to differ but very little from a walking rod; and as to the effect of Pompey's pillar, had it never been nearer than Egypt, and could we have only contemplated it in idea from descriptions, or in its representation by itself in a print, we might have been excused for admiring it as a sublime exertion of taste; but when it is brought home to our doors, and placed within sight of so many Gothic spires, as at the *Monument* in London, the charm is dissolved; and, setting the prejudices of education aside, we see it in all its nakedness, and are enabled to appreciate justly its proportional merits. Upon this investigation, however, I mean not at present farther to enlarge. I only wished to say, that none of these could have served to suggest the idea of church towers and spires to our artists, who seem to have been led in every step of their progress by an idea of fitness and utility; which primary object being once obtained, they then tried to give it such a form as should render it an object of taste as well as utility: nor shall we find that they were deficient in uniting these in their towers, any more than in the other parts of the structures which we now examine. The reader will also recollect that China was unknown to them, and that the towers called by us *pagodas,* which more nearly resemble in effect our spires than any other, could not have contributed in any respect to the formation of those structures.

Those central towers being formed of stone arches supported by pillars, as every other part of the church, when viewed internally from below, obtained the name of the *Lantern*, as the upper part assumed the form of a square with lights on each side. These arches, like all others, stood in need of abutments; and, as our artists frequently found that it would not be convenient to raise buttresses on the outside of the tower to serve as abutments to these arches, they were induced to adopt some other plan for effecting that purpose. The expedient which they found the easiest was, to raise the walls to a considerable height above the arches, and thus to give firmness and stability by weight. To this expedient they usually resorted; and as they observed that additional height in the tower gave a dignity and elegance to the whole pile, which it did not before possess, they found it convenient, on most occasions, to make an apartment above the lantern dome, in which were placed their largest bells; carrying the walls, if its roof were arched, to a considerable height above that roof also, where they were terminated for the most part by open railwork with pinnacles at each corner, the roof being here flat woodwork covered with lead, and supported by beams laid across from side to side. Such are the origin and uses, and such is the form that most of the central towers assume.

But on some occasions it was judged more expedient, that the flat form of the top of these towers should be abandoned, and something of a spire-like shape adopted in its stead: nor was this found to be an insurmountable difficulty to our artists. On some occasions, a close spire was reared to a great height. These spires, for the most part, were reared of timber; as in the cathedral of Old St. Paul's, London, and the cathedral of Lincoln; but where they were required to be made of stone, this also they knew how to effect. The various devices which they adopted for this purpose would require a volume to enumerate. These, indeed, are so diversified, and all of them so well adapted to the purpose intended, as to have stood for many ages perfectly firm, though many of these fabrics appear, to unskilful observers, so light and slim as to be in danger of tumbling to pieces by the slightest shock. Among these, the steeples of the cathedrals of Antwerp and of Strasburgh have attracted the notice of all strangers, and have often been described by travellers as objects deserving the highest degree of admiration, on account of the surprising symmetry of the whole, the wonderful delicacy of the parts, and, at the same time, the firmness and stability of the structure. Of this last stupendous fabric, I recollect to have seen an elegant engraving by Hollar; but this was only a general view. It is much to be regretted, that no person hath as yet thought it worth his while to give architectural designs of the plans and elevations of the whole, and the several parts of this and similar structures, by means of which the mechanical contrivances of the artist might be completely unveiled. This is a work that will give scope to the ingenuity of some of our descendants. In the meanwhile we know enough of these contrivances, even from the few structures of this sort that at present exist in our own island, to be able to perceive that it was by that accurate knowledge they had acquired of the principles and powers of the stone arch, and the means of diversifying its forms so as to adapt it to every purpose which they wished to effect, that they were enabled to produce those suprising combinations which have extorted the admiration of all beholders, without having been able to awaken the desire in any one to acquire the knowledge of the means by which these things have been effected.

In some cases these towers were capped with solid spires of stone, as in the cathedral church at Old Aberdeen. These, for obvious reasons, are made to consist of a spire of a very *elevated* conical shape; but, for the most part, these towers consist of open work at top, and have been thrown into a great diversity of forms according to the taste of the architect. In some cases, they were made to consist of very light open work more resembling the *treillage* of Chinese work than any other structures, as in the tower of St. Nicholas's, church, Newcastle; others are in the form of an imperial crown, as on the college chapel of Old Aberdeen; and others in the form of the papal crown, as in the steeple of St. Giles's church in Edinburgh, which, being extremely simple in its construction, may serve to give the reader a slight notion of the manner in which our artists contrived to vary the form of their ornaments, so as to produce the effect as to the general symmetry which they had in view; at the same time that each of these ornaments contributed its share to add to the general stability of the whole.

What I have said, of this spire having been intended to bear a resemblance to the Roman tiara, is merely from conjecture, founded on the general resemblance that may be easily recognised between the one and the other, though they differ in this respect, that the tiara is a *solid* circular *bilged* cone; (by which I mean to say that the section of the base of the cone is circular; but the section taken from the base to the apex consists of two segments of a circle terminating in a point at top, and widest at the base), and that the spire consists of open ribs only, without having the intervals between closed up. In this case, as the plan from which the ribs of the spire rise is square, though the general appearance is always nearly the same, yet it is obvious that the proportions must vary a little when viewed in different positions; for, when the tower is viewed in a diagonal direction, the cone must appear flatter in its proportions, because wider at the base, than when viewed in front, as the base of the diagonal is longer than one of the sides. This might appear to some, at first sight, to be a defect, though it is, in fact, the source of no inconsiderable beauty, as it exhibits the spire under varied forms, though it be still recognised as the same. In like manner, the open form of the ribs is a source of similar diversity, and of a never-ending variety of appearances; especially when viewed near, and, of course, from below, where the external projections seen from beneath some of the nearer ribs exhibit a diversity of combinations as you move, whose effects, though pleasing, are by no means easy to be comprehended. This may serve to give some faint idea of the incomprehensible nature of those complicated appearances on such high open large towers, consisting of many parts of this nature properly joined together, which excites that degree of astonishment that travellers dwell upon with admiration. Considering these things, it is proper that I should here remark, as will appear very obvious to any one who is acquainted with the principles of perspective, that the general form which exhibits the resemblance to the tiara can be only perceived when the spire is seen from a great distance, or when it is viewed from any object that is nearly on the same level with the open part of the spire itself, where only its shape can assume nearly the same appearance as if it were solid throughout the whole.

The papal tiara consists of a high bilged conical cap, of a similar form to the outline of the ribs of our spire, having an ornament consisting of a triple band surrounding it. It is a matter of no great difficulty to point out the devices in the present case (they being very simple) which the artist had adopted to give to his spire the same general appearance, while matters were, at the same time, so contrived that every device tending to preserve the resemblance should add to the stability of the fabric. As this kind of analysis may lead to something of the same kind in other cases, it will not, I hope, be deemed impertinent.

As the pinnacle above, which was required for giving an elegant finish to the top of the spire was necessarily of considerable weight, the arch of the ribs must, of course, be so placed as not to diverge far from the perpendicular, in order to allow the pinnacles at the base, and those on the middle of the ribs (which not unaptly represent the bands of the tiara), to be made of a moderate size suitable to the occasion. With a view to give that requisite degree of elevation to the ribs, without departing too much from the proportions of the tiara, the artist made each of the ribs to consist of two segments of a circle (one of which formed the inside, and the other the outside, of the rib), that were so arranged as nearly to approach each other at the top, and gradually diverge wider from each other towards the base; an exact idea of which may be conceived, by supposing a perpendicular section of an elephant's tusk from the point to the base, in the same plane with the curvature of the tusk. By this means a great part of the weight of what should have formed the abutting pinnacle was thrown into the base of the rib itself, so that the pinnacle here required might be with safety reduced to a very moderate size; and for the same reason the pinnacle required on the middle of the rib to prevent it from being pushed outward in that place by the weight above, could also be with safety diminished to the proper dimensions. The clear-sighted reader will be enabled to perceive, by this simple illustration, with what facility, upon these principles, our ingenious artists could diversify almost at pleasure the forms of these open-topped spires; for if the pinnacles in any particular part were required to be lofty and massive, they could adapt the form of the inside arch of the rib so as to carry that weight there without deranging its external appearance; or they could give the same weight without the appearance of a pinnacle at all, by consolidating it in the body of the work; or it might be effected in a great diversity of other ways, which an attentive observer will be able to discover, whenever it shall be investigated by the eye of intelligence. He will then be able to unveil that necromantic spell by which the eyes of the vulgar have been fascinated for so many ages; and, instead of being confounded with inexplicable *miraculous* appearances, he will be charmed with the perceptible display of *wonderful* ingenuity combined with the most beautiful simplicity.

Though our artist chose, on the present occasion, not to imitate the tiara so closely as to render the structure solid, yet he chose not to depart from it so far as to give it too open an appearance; to avoid which he not only gave the ribs a greater depth than he needed to have done, had he so chosen it, but he also, instead of four ribs sprung from the corners only, chose to add four others, sprung one from the middle of each side of the square, making eight in all. I shall only add, that in this spire there is an ugly blemish, which evidently formed no part of the original design, but must have been an addition afterward made by some tasteless improver, at least that part of it which rises above the parapet wall. What I here allude to is a stair that has been formed in the wall, as is very usual in large steeples, to get up to the top. It probably was carried so far by the original architect as to lead to the highest floor within the parapet; but has been afterwards raised to its present height by some ignorant innovator. It is a pity that such a fine structure should be spoiled by such an ugly excrescence, which might be taken away without any danger to the pile; and it certainly would do honour to the man who should remove such an incongruous projection. A stair to lead up to the musical bells (for which purpose it has evidently been constructed) might be easily contrived, that should not be liable to the same objection.

When the art of constructing towers and spires was once attained, it cannot be thought wonderful that they became favourite objects with the people at large, as well as with the artists themselves, who had here an opportunity of displaying, to great advantage, the luxuriance of their imagination, and the resources of their genius. Hence it came into fashion, not to content themselves with one central tower only; but it became quite common also to erect two smaller towers on the west end of large cathedrals, which stood in the place of abutments to the two rows of columns on each side of the middle nave; though they contented themselves, for the most part, with plain abutments on the east end, which were sometimes constructed in the truest taste of elegant simplicity, as in the east end of the cathedral of York, which forms, upon the whole, a front that, to me, appears exquisitely elegant. I shall do myself the pleasure to give a general view of it for the satisfaction of the reader, when I shall have occasion to refer to this object in a future part of these disquisitions.¶

There remains still one other peculiarity respecting Gothic cathedrals which is highly deserving of elucidation, as it is the source of one of the most exhilarating domestic comforts that has been conferred upon the inhabitants of high latitudes, and which we owe entirely to the exertions of that fraternity whose intellectual progress we have for some time past endeavoured to trace with a steady degree of attention. I here allude to windows.

We have already remarked that the Greeks paid scarcely any attention to this article in their temples; and the Romans deviated as little from them in this as in other respects. Indeed, it necessarily must ever claim a smaller share of attention in warm climates, where men find it pleasing to associate together in the open air, than in colder regions, where the inclemency of the climate is such as to render the shelter of houses closely surrounded on all sides absolutely necessary for the comfortable enjoyment of life during the greater part of the year. Walls, therefore, became necessary to exclude the external cold from persons within, and light, at the same time, was required to enable them to discharge those duties which were to be there performed; windows, of course, became an essential part of such structures; and we shall soon find that our artists succeeded as happily in the arrangement and distribution of these, as in any other part of the arduous task which they had imposed upon themselves.

Any one who has adverted to the foregoing part of these elucidations must have perceived, before this time, that the walls of a Gothic cathedral may be considered merely as adventitious screens, which, forming no constituent part of the structure, might be wholly removed without endangering its stability in the smallest degree. It is the pillars alone which support the whole of the roof, totally independent of the walls. It follows, of course, that as the walls have nothing but their own weight to support, there is no necessity for making them of a clumsy thickness. A necessary consequence, then, of making the walls thus, is, that wherever an aperture is made in them for the purpose of a window, the light is permitted to enter with an unencumbered freedom, so as to be diffused around without being accompanied with that depth of shade which a thick wall must necessarily engender, and which occasions a gloom that is far from being pleasing. The same circumstance which enables the artist to diminish the thickness of the walls, removes from him every degree of restraint with respect to the dimensions of the aperture; so that he is at liberty to include the whole space between the pillars (if he so inclines) in the window. Our artists freely availed themselves of these advantages; but, observing that light, when thrown in from above, produced a more pleasing effect than from below, their general practice was, to fill up the under part of the aperture between the pillars with a solid wall (placing, on many occasions, a resting seat between them); and at the height of six, eight, or ten feet, according to circumstances, from the floor, they began the window, dividing the whole into many compartments by a latticework of stone, lightly and delicately cut, and sometimes deviating into tracery work of extraordinary elegance and beauty. These light combinations of tasteful imagery prove at all times singularly pleasing and attractive, while the abundance of light diffused every where around produces an exhilarating sensation that tends to elevate the mind into a kind of supernatural ecstasy. The magnitude alone of some of these windows conveys an idea of sublimity, which, when compared with the windows adapted to any other style of architecture practised in Europe, exalts those of which we now speak to such a proud degree of preeminence as almost precludes the possibility of drawing a parallel between them. The east window of York cathedral measures, if I mistake not, 72 ft. in height by 35 ft. in breadth; and this is equalled or surpassed by many others. To our artists, then, we owe the very primary idea of windows calculated fully to illuminate structures of immense magnitude and grandeur.

Having thus taken a cursory view of the principles and progress of that style of architecture which has been usually called Gothic, and the purposes which it was intended to effect, it remains that we should attempt to draw some sort of parallel between that and the Grecian mode of architecture, that the reader may be enabled the more easily to perceive their respective excellencies and defects, and thus to discover in how many respects, and in regard to what particulars, they respectively and both fall short of the purposes of a complete system of architecture, fitted for the various purposes of human life. We, as yet, but touch the threshold; though some think they have gained the *acme* of perfection: but, notwithstanding this is far from being the case, let us not despair; *plus ultra.*

ART. VI. *Design for a Villa in the Style of Architecture of the Thirteenth Century.* By E. B. LAMB, Esq., Architect.

THIS villa is supposed to be erected in a romantic situation, upon a rocky eminence, backed by lofty wood, and a richly cultivated country; with, at the base of the rock, a rapid stream winding through a fertile valley.

Fig. 129. is the ground plan. In this figure, *a* is the porch and carriage entrance; *b*, the hall; *c*, a saloon; *d*, drawingroom; *e*, breakfast-room; *f*, business-room; *g*, lobby; *h*, dining-room; *i*, passage; *k*, lobby; *l*, back stairs; *m*, principal stairs; *n*, library; *o*, conservatory; *p*, open court, which is sunk 18 in. below the kitchen floor; *q*, terrace over kitchen offices; *r*, entrance to the terrace; *s*, back entrance.

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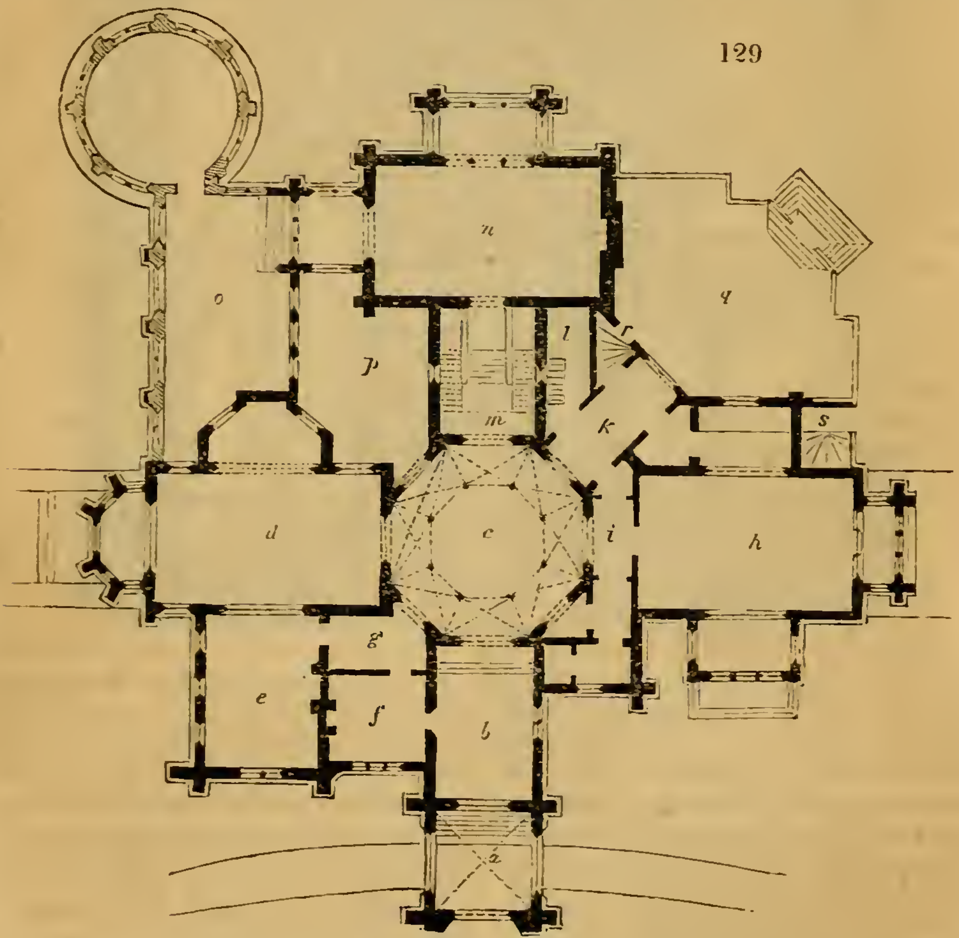

On alighting from your carriage, which has been drawn up under the porch (*a*), you enter the hall (*b*) by a few steps. This

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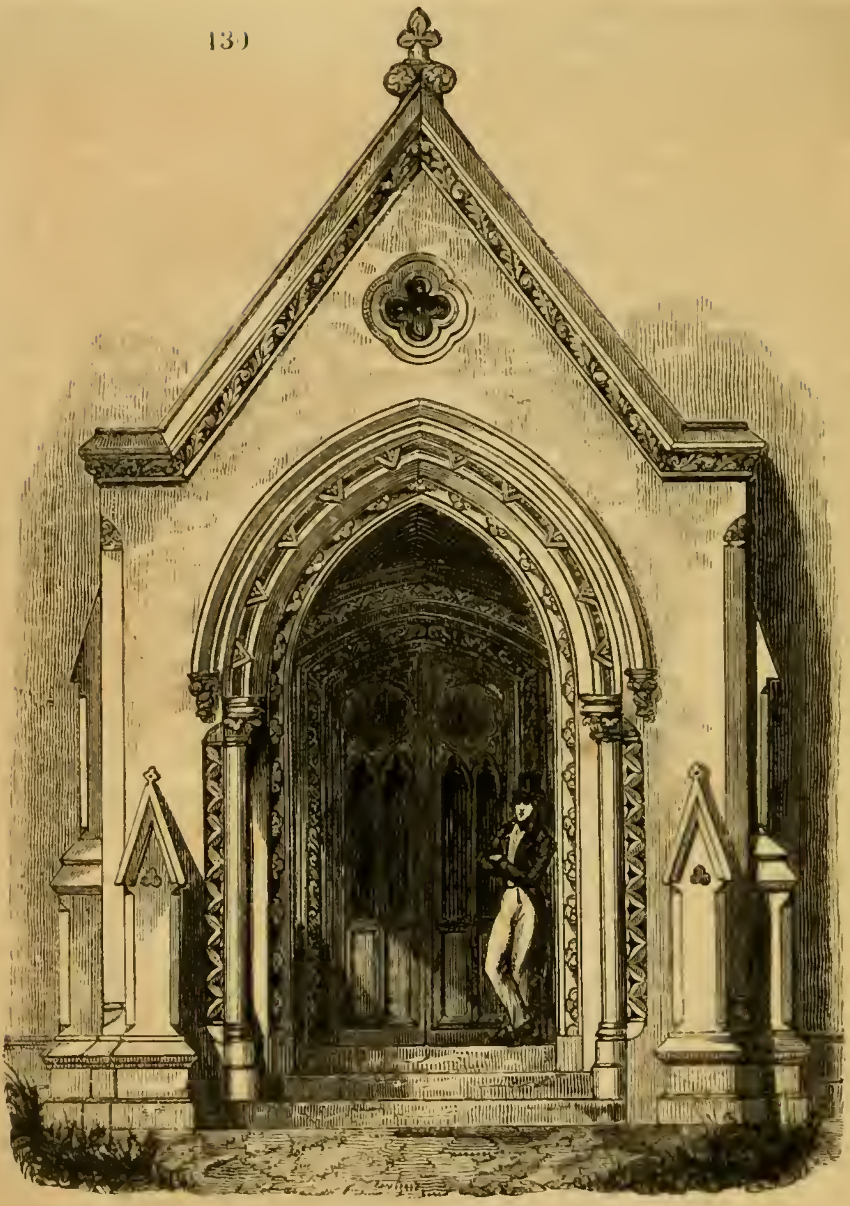

hall is open to the roof, which is of oak, and lighted by a lantern light near the end adjoining the saloon; besides this light, it has a window on the right side of the entrance, which is filled with stained glass; opposite this window is a door to the business-room, as I suppose the proprietor of the villa to be in the commission of the peace. This door will be convenient, and will prevent the nuisance of all kinds of persons passing through the saloon. The entrance doors (*fig.* 130.) to the hall should be of oak, or painted in imitation of that wood, and richly carved: they might be glazed, as this would be a great acquisition to the general view; and if the borders were of a rich colour, the appearance would be greatly improved. The colour of the hall should be a rather dark warm stone colour; round the walls might be a few niches for statues of crusaders, or other heroic persons, with a

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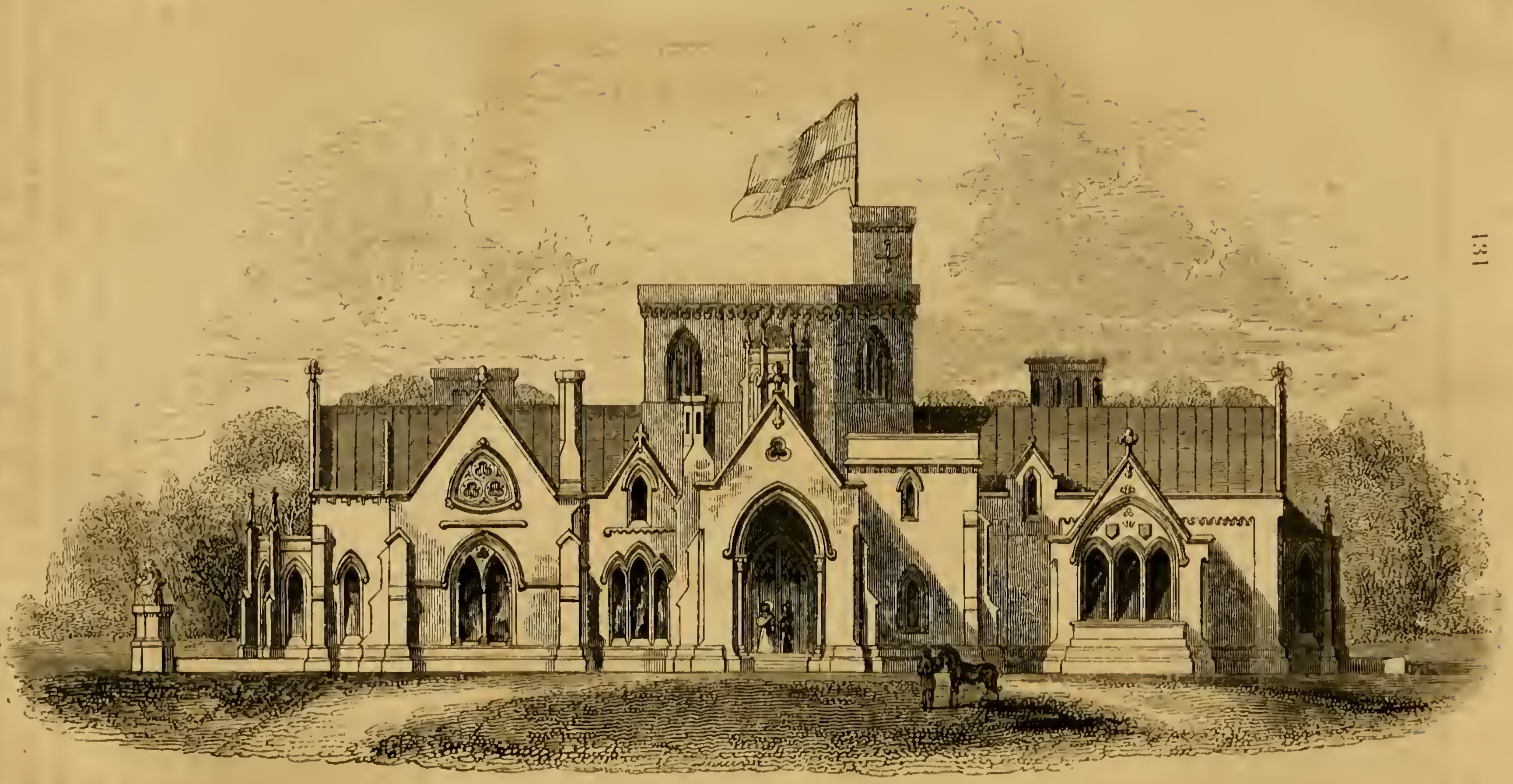

few suits of armour of the same date as the building, and implements of war of the same period; but care should be taken that these articles are not crowded. Some chairs, of a massive character, bearing heraldic devices, and a table, would, I think, nearly furnish the hall. This place is also appropriate to heraldry, and should be decorated with every device of the family; but not with any arms that do not belong to them, as I have seen sometimes done. The hall should be paved with ornamental tiles.

From the hall we ascend three or four steps to the saloon. (*fig.*129. *c.*) This is the whole height of the building, and lighted by windows in the upper part of the tower, as seen in the elevation. (*fig.* 131.) The first thing deserving of attention is the groining of the roof, which is supported upon eight clustered columns and arches; the ribs forming a centre at the top, of an octagonal form, which is open, and secured from the weather by a lantern light, round the inside of which is a gallery of trefoil tracery. At the intersection of the ribs are rich bosses, gilt and emblazoned; the ribs are picked out with various colours, with the ground, or prevailing colour, resembling that of the hall. The dotted lines on the plan (*c*, *fig.* 129.) show the form of the groining which supports the gallery on the first floor: the ribs and bosses of this groining are similar to those in the upper part, but not so numerous, and smaller. Round the gallery is an open balustrade of quatrefoil tracery, surmounted with a capping enriched with scroll ornaments. The material of which the saloon is constructed should be stone, or imitation stone. I nearly forgot to mention that the windows should be glazed with glass of various hues, but the prevailing tone should be warm; and that from the centre should hang a lamp of rich workmanship. The saloon should be laid with ornamental tiles, or with polished oak; and the centre part might be covered with carpet occasionally, when it was required for the purpose of throwing into a suite of rooms. Handsome seats, chairs, and other articles of furniture suitable for a saloon, might be arranged according to the taste of the occupant; but in their shape the strictest conformity to the character of the building should be adhered to.

Now having made a detailed survey of the saloon, let us consider its general effect; the mellow tints, glowing over the whole; the various shadows thrown from the columns and arches; the sparkling of the gilded bosses and emblazonry of heraldic colours; the rich tone of the stone; and the great height to the summit of the lantern, all combined, produce a mystery and intricacy highly interesting and picturesque. I must not omit mentioning the arch from the gallery, looking into the hall, which will add very much to the effect: it also corresponds with the one on the landing of the stairs. The window to the open

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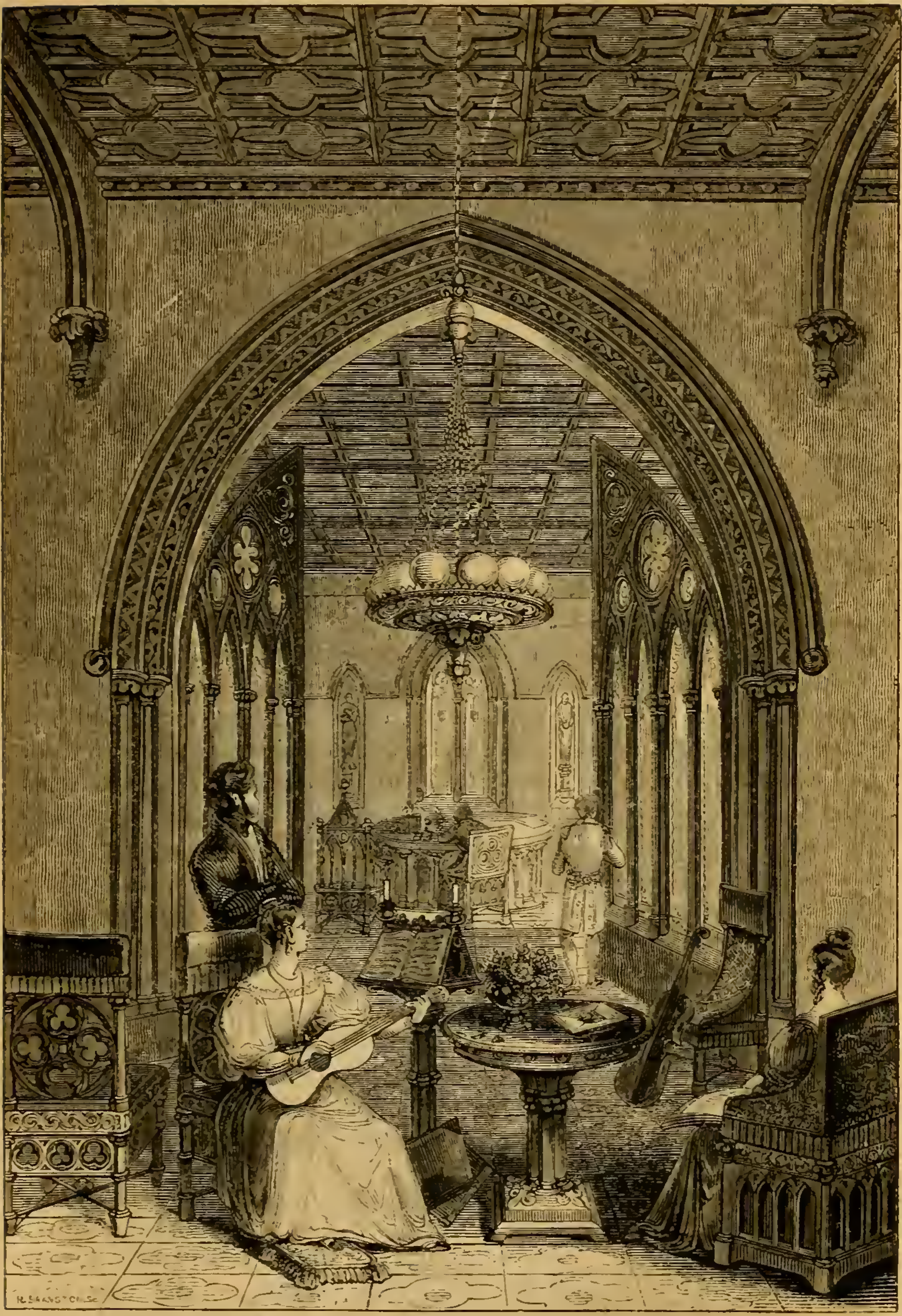

court (*fig.* 129. *p*) should correspond with the doors: in fact, it should be a kind of glazed door. All the doors from the saloon should be hung folding, and should be richly carved.

The first thing that would strike a stranger, on entering the drawingroom, would be the large window in the recess at the end of the room, the upper parts of which should be of stained glass; and, in fact, all the windows in this room should be glazed in this manner. After the eye had become perfectly acquainted with this object, it would naturally turn to something new: perhaps the next thing would be the recess, where the fireplace is, on each side of which would be a window, but not reaching to the ground, like the one last mentioned. Over the fireplace is to be a window which would look into the conservatory. It may be here proper to mention that the drawingroom will not be indebted only to the fire in the open grate for its comforts; as the apparatus which heats the saloon and hall will also lend its aid in heating this room; without which one fireplace would be insufficient in a room of rather large dimensions. Now, while we are in this recess, we will take a view through the folding doors opposite, which have just been thrown open, and observe the effect; some idea of which is given by *fig.* 132. The folding doors should be richly carved and glazed; and, as nothing adds so much to the beauty of a room as stained glass, I would not be sparing of it, at the same time bearing in mind, that its colours must be in perfect harmony with the general tone of colour in the room. The entrance to the breakfast-room should be through other folding doors; or, perhaps, curtains would look better, when of rich materials, and these, when drawn, would not only exclude the view when privacy was required, but, better than doors, prevent the communication of sound. In *fig.* 132. are also shown some of the necessary articles of furniture for a drawingroom. If the stranger should now turn his eye to the ceiling, he will observe that it is supported by trusses, and that the spaces between are paneled with quatrefoil oak tracery. The tracery should be picked out with gold, and the ground should be blue, and covered with gilt scroll-work. Painting and gilding were among the principal decorations of this class of architecture; and blue was the prevailing colour of the ceilings, probably from the colour of the heavens: be this as it may, when painting was used in ceilings it was generally of this colour; but I would not confine myself to precedent so very strictly, as not occasionally to employ any other colour that might harmonise with the walls. The walls should be of such a hue as to form a connecting link between the floor and ceiling, but these should be more subordinate; and the furniture, in form and colour, should fill up the space that would be required, to make the whole in correct keeping. We will now pass through the folding doors (shown in *fig.* 132.), so invitingly thrown open, to the breakfast-room. On the side of this room are three windows, the centre one of which is to the ground, and opens to the lawn; the end window is shown in *fig.* 132. The whole of this room partakes of the colouring of the drawing-

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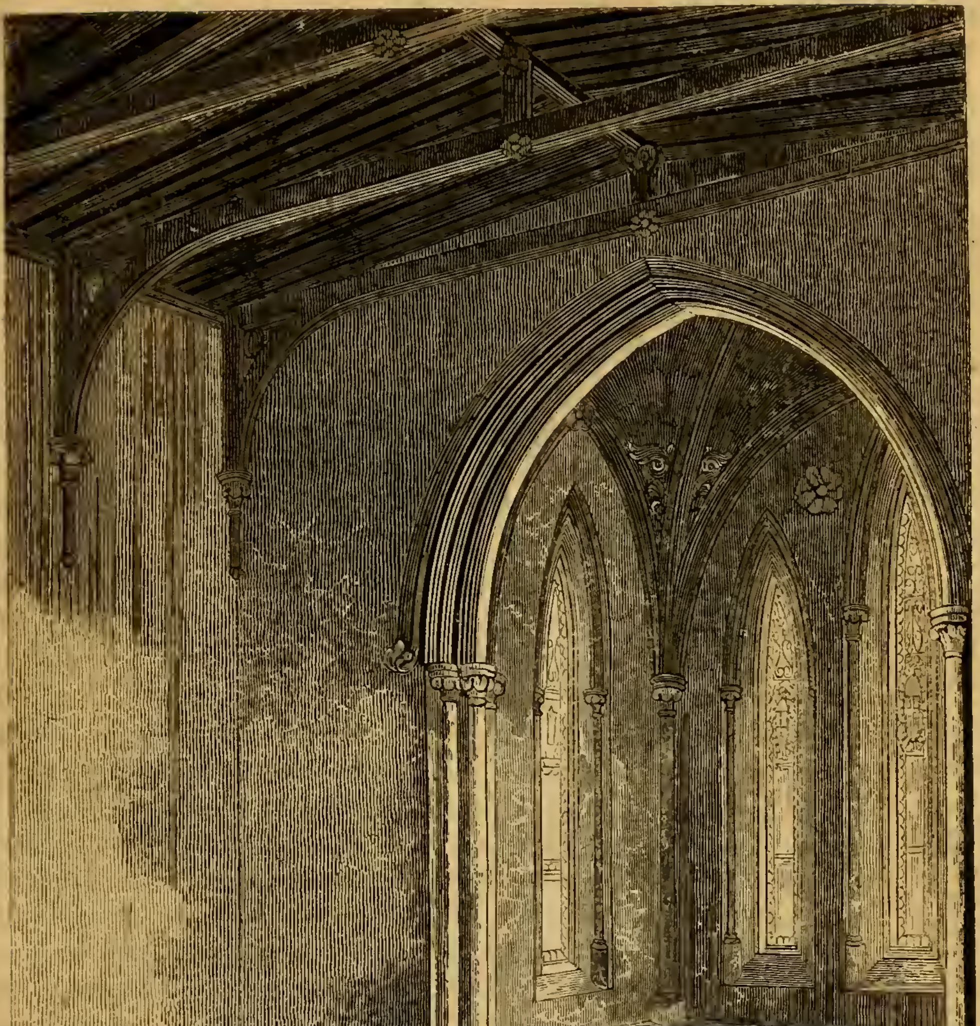

room, as they are so connected as to be occasionally thrown into one; but the ceiling, furniture, &c., are not so richly carved. In this room may be some niches for statues; and many interesting subjects in sculpture and painting may be introduced that may suit the taste of the proprietor. From the breakfast-room we will proceed to the lobby (*g, fig.* 129.), which I would not forget to make an interesting scrap of architecture, as attention to these minor bits is often the cause of great effects. This every body must have observed who ever noticed the little recesses in Gothic buildings; or the lobbies, passages, and otherwise insignificant places, in the interiors of Sir John Soane's buildings. This lobby leads to the business-room (*f, fig.* 129.), which should be fitted up with a scrupulous regard to the style of the rest of the building; but, of course, should not be so rich as the other rooms. The ceiling should be in plain panels of light oak, the walls of one colour, the windows charged with armorial bearings, and over the chimneypiece should be some ancient armour. The chimneypiece should be massively carved, and the furniture of oak, but slightly carved : in fact, the appearance should be somewhat of a sombre kind, partaking something of the character of the hall. We will now pass, once more, through the lobby, for the sake of entering the saloon that way, and observing, from the doorway, the effect right through the lobby (*k, fig.* 129.) on the opposite side. Here you will see a rich stained glass window, at the end, which is the only light I would give to this lobby; as the depth of shadow arising from the dark tint of the walls, and from the window being entirely covered with an immense variety of tints, when seen through the saloon, would produce a contrast which I think would be very interesting. On entering the dining-room, and passing right up to the window opposite the saloon entrance, after having thrown open all the doors, the effect would be extremely good through the saloon and drawing-room. The ceiling should be paneled in oak, and the ribs might have some gilding on them : a few pieces of heraldry would also be perfectly in character here. The arched recesses should be groined; the colour of the walls should be some darkish warm tint, taking care not to overpower the ceiling; and on the walls might be hung family pictures, &c. The fireplace is under the recess at the end of the room; and *fig.*133. will give some idea of its appearance. The recess on the left of the entrance is for the sideboard, over which is a stained glass window; the servants' entrance is on one side of this recess; and the recess on the right is for windows, which are to the ground, and open on to a balcony, shown in *fig.* 131. The furniture, of course, must be as much in character in this room as in every other. It will not be necessary to say any thing about the passage (*i, fig.* 129.), except that it communicates with the domestic offices, &c. Through the lobby (*k*) we arrive at the entrance to the back stairs, and the stairs leading to the terrace (*q*). This terrace is over part of the domestic offices, and, in the angle are steps which lead to the lawn. We pass from the saloon, which we have now reentered, to the principal stairs, which are open to the whole height of the building: this staircase should have a window on each side. The first flight of steps only ascends to the library (*n*) which is 2 ft. 6 in. above the floor of the saloon. Directly opposite the stairs is the door of this room, which should be a rich piece of workmanship, and may be glazed with plain glass; on the inside, between a double arch, should be curtains, that may be drawn when necessary. The stairs should be of stone, supported on arches and piers; the balusters should be also stone, of a trefoil or arch pattern, decorated with the toothed and scroll ornament. There may be some figures, on the newels, of supporters, arms, &c. The ceiling should be groined, and decorated with bosses. Some niches in the walls for statues would also be appropriate; or there might be some suits of armour. I have mentioned armour several times, and it may occasionally be introduced with good effect; but I do not mean that so much should be placed in the different apartments as to give them the appearance of show-rooms or brokers' shops: in fact, if used in too many rooms, the interest will be decreased. If too numerous, these relics of antiquarian warfare would be apt to lead the eye from the main object, and become a principal instead of an auxiliary. The arrangement of these things requires as much attention from the architect as the proper distribution of light, and should never be lost sight of when he is composing a design for an interior.

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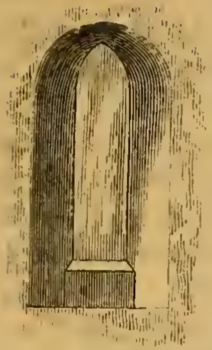

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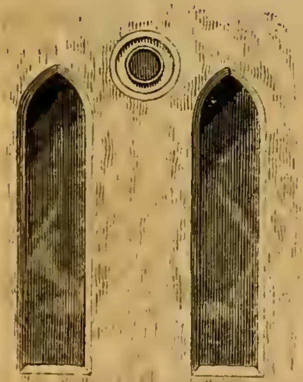

From the principal stairs we will enter the library. On the left of the entrance, at the end of the room, is a deep arched recess, with highly decorated windows, though still of rather a dignified appearance. This recess might be groined; and the centre bay of the end window should open to the ground, so that, by descending a few steps, we might enter the conservatory: we must, however, first turn round, and make a few general observations on the library. As there are no rooms over this, it may have a very fine high pitched open oak roof; and, as the room would also be of lofty proportions, the effect would be greatly increased if the trusses of the roof were filled with tracery, and the rafters ceiled to with plain paneling, but with gilt bosses and heraldic devices at the junctions of the ribs. Round the walls should be richly carved bookcases, and canopied niches for the statues of celebrated men, not only of bygone days, but up to the present time. As these figures would naturally be subjects of great interest in a room of this kind, I would wave the antiquarian necessity of having them exclusively of the date of the building; but still, I would endeavour to put such robes upon them, by strict attention to the character of the ancient sculpture, as might prevent the whole from producing a discordant effect; and this, I think, may be done without violating the character of the dress of the time in which the great man lived: for instance, no one would think of dressing Shakspeare in the costume of the writers of the thirteenth century; but still, I think we could find a mantle of Queen Elizabeth's time, that, by a judicious arrangement, might be made to harmonise with the general style of the room, and yet be characteristic of its proper period. This is one of those little licenses that architects are sometimes compelled to take; and I have no doubt that it can be done without exciting the anger of the most scrupulous antiquary. You will observe that the recess opposite the door is divided by a screen of

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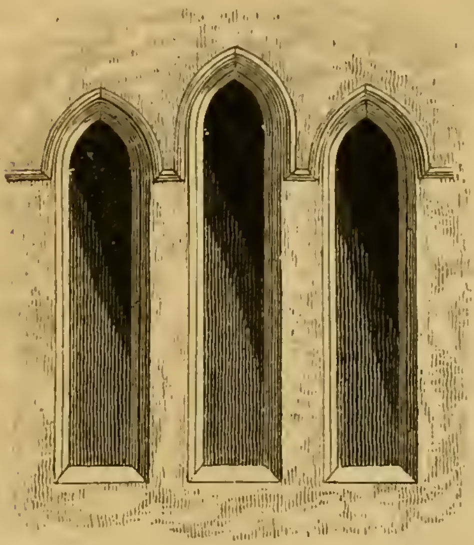

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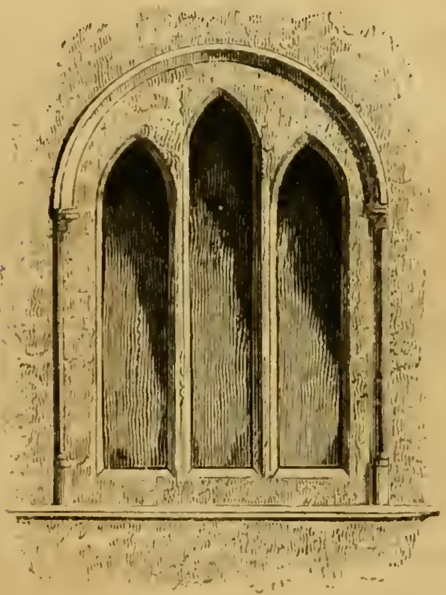

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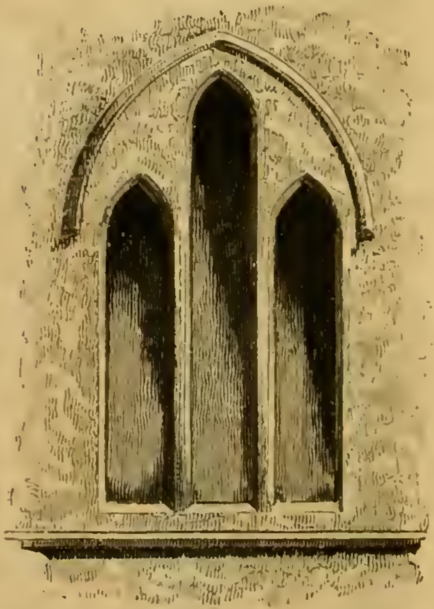

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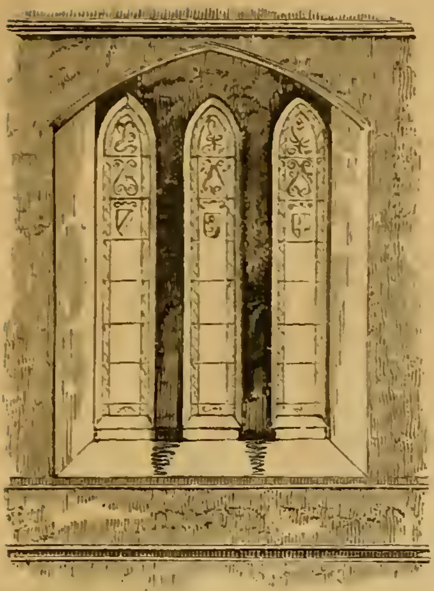

three arches on clustered columns of Petworth marble; and, indeed, all the columns of the windows in this room and the drawingroom should be of marble. These columns, if highly polished, will, when contrasted with the stone, have a good effect. This recess should be groined in a similar manner to the other; the windows should have stained glass heads and borders, and the centre bay should open to the lawn. It is, certainly, a refinement in building, to have windows constructed in this manner, although I am aware that some persons object to them on account of their admitting too much air into the room; but, surely, windows opening to the ground may be made as air-tight

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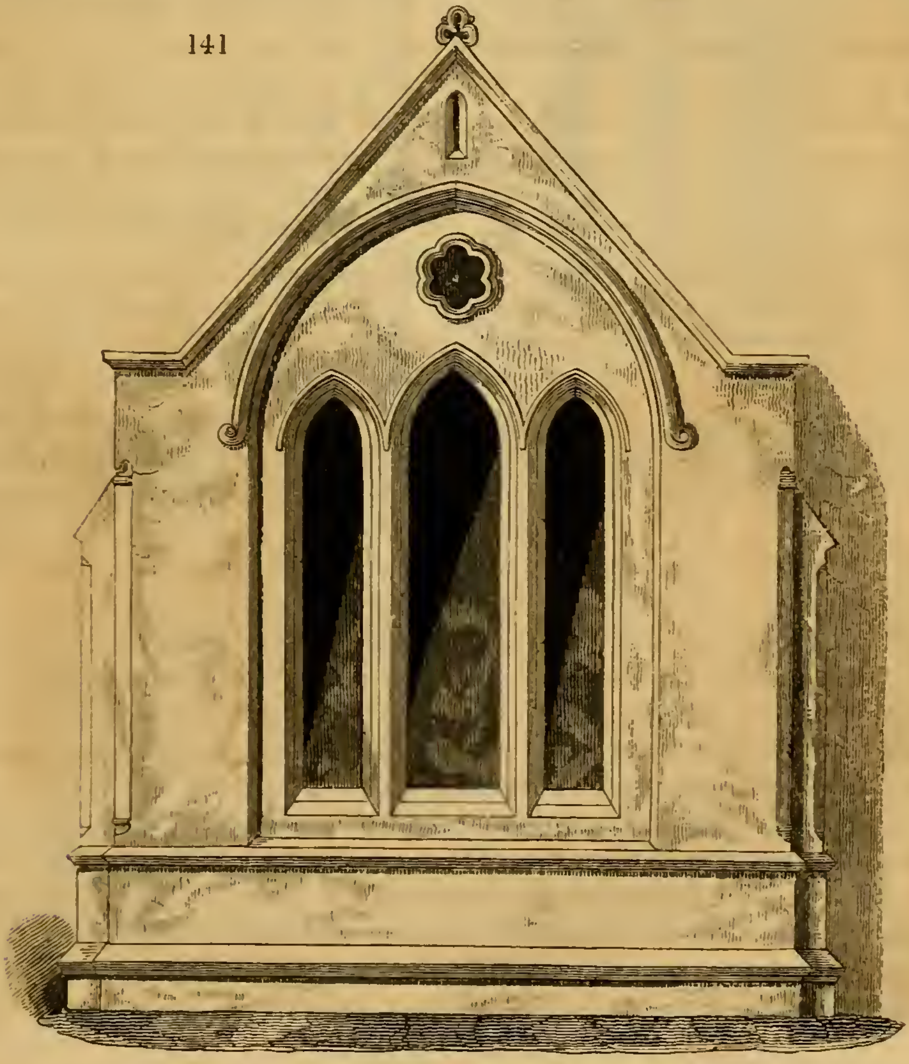

as common sashes; and, if they are not, the artist, as well as the artificer, is not qualified for his occupation. In this room should be dwarf bookcases, or tables with bookshelves under them, which might be made very ornamental: the furniture generally should be handsome. The floor, of course, should be carpeted. Now, if we step to the inside of this arched recess, and have the doors all thrown open, the view will be found exceedingly pleasing and picturesque; through the library, principal stairs, saloon, hall, and porch, there will be a great variety of light, shade, and colour, and the eye will rest, at last, upon the scenery in the immediate vicinity of the house, which recedes and diminishes, in various colours, till it finally terminates in the clear blue of extreme distance. From the outside of the porch the view will be equally good: the eye will be looking upwards to the different divisions before mentioned; and, I think, the grandeur of the whole would be considerably augmented by these gradual ascents. I might point out many other effects; such as the view from the octagon gallery; and again from the gallery or lantern above; the view from the first gallery into the hall; and, turning round, the view to the stairs, &c.: all, I think, would be interesting; and all, when the plan is examined, may be easily imagined.

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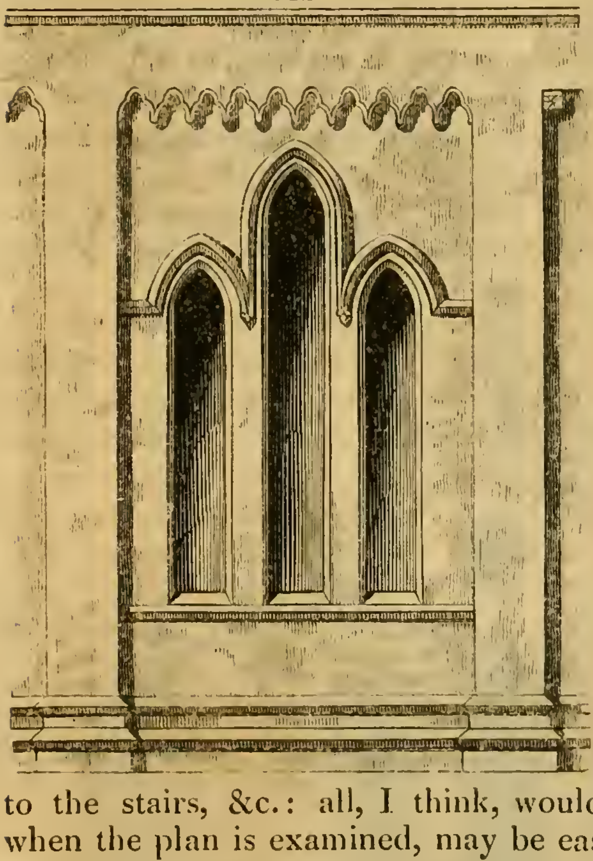

It will be scarcely necessary to say any thing about the conservatory, except that the strictest adherence to the character of the time should be observed in this, as in all the parts of the mansion. In the open court (*p*, *fig.* 129.) will be the windows to the domestic offices; and these offices will contain the usual necessary apartments for servants, &c. The floor should be on a level with the surrounding ground: it should not be sunk below the surface of the ground, on account of the dampness; and if raised up on a level with the principal floor, the offices would appear of too much consequence, and would take materially from the effect of the building. The domestic offices of a house are always subordinate parts, and they should always appear so.

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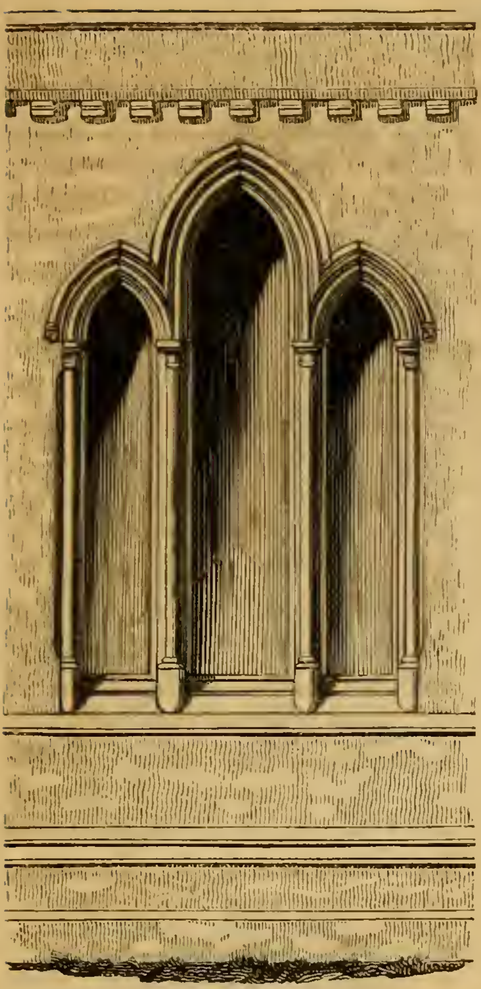

We shall not have occasion to go up stairs, as the general appearance of the bed-rooms should be such as will be perfectly in character with the rooms below; therefore we will now take our leave of the interior of the building.

Having arrived at the outside, we will just go sufficiently far off to discern the mere outline, as that will be the first thing that will strike the eye upon the approach of a stranger. The general effect will be seen in *fig.* 131.; and, I think, the projecting gabels, receding arches, and crowning tower, will appear tolerably picturesque. The eye is first insensibly led to the tower, as the principal feature; and this being lofty, and situated in the centre of the building, will, on every side, be a guide to the view; gradually the next high parts will develope themselves, and inclining downwards on each side, the whole is comprehended in the union of its parts. On approaching nearer, it will be found that these parts are also deserving of attention: they are compositions in themselves, but owe their principal effect to their combined power as a whole.

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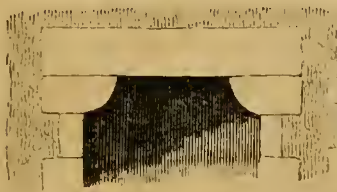

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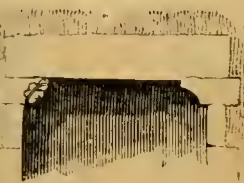

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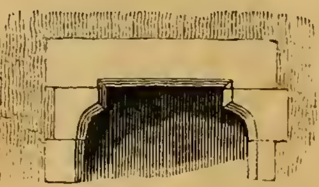

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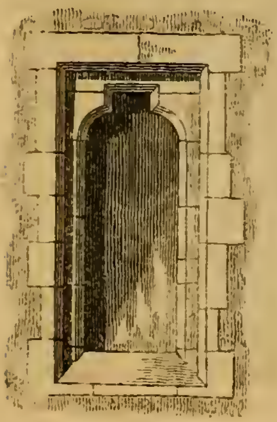

I have endeavoured to maintain, as much as possible, the general character of the style; but, in the absence of precedent for domestic buildings of this period, and for the different and improved customs of the present day, much difficulty will necessarily arise in these compositions. Monastic buildings are the only precedents that now remain from which we can seek for aid; but that there were also private houses in the thirteenth century, besides those constructed with timber and plaster, there is very little doubt, as we have one existing example of a still earlier period in Winwall House, Norfolk, which is of Norman architecture; and it is but reasonable to suppose that others were built in a style of later date; but, without precedent, it is only the very fastidious that would object to the details of dwelling-houses in any style of architecture, if the general character were well preserved.

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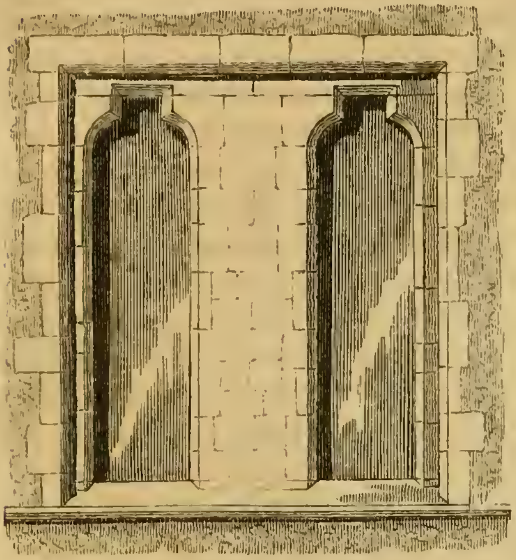

It now remains for me to give some description of the details of this design, and the authorities I have followed in adopting them.

From the reign of Henry II. the pointed arch was generally adopted; but, in some instances, it was used much earlier. About this period the style changed from the massive forms of the preceding age, to tall, light, and elegant proportions, which, at length, became fully established. In my next paper I shall have occasion to speak of the different kinds of architecture of the middle ages; therefore I will not now enter further on the

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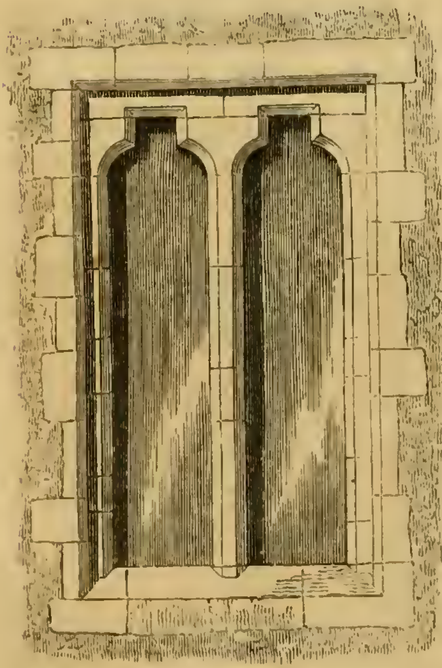

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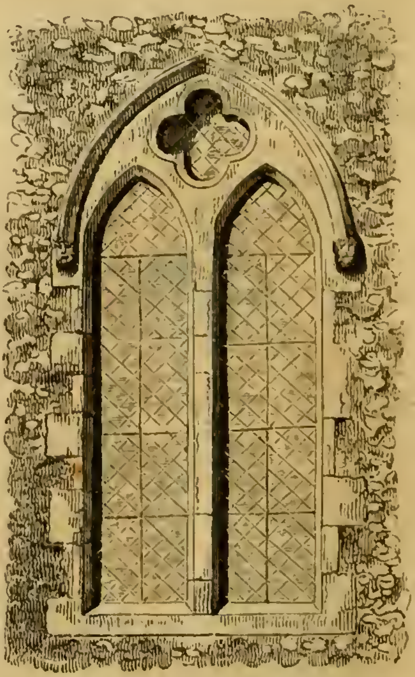

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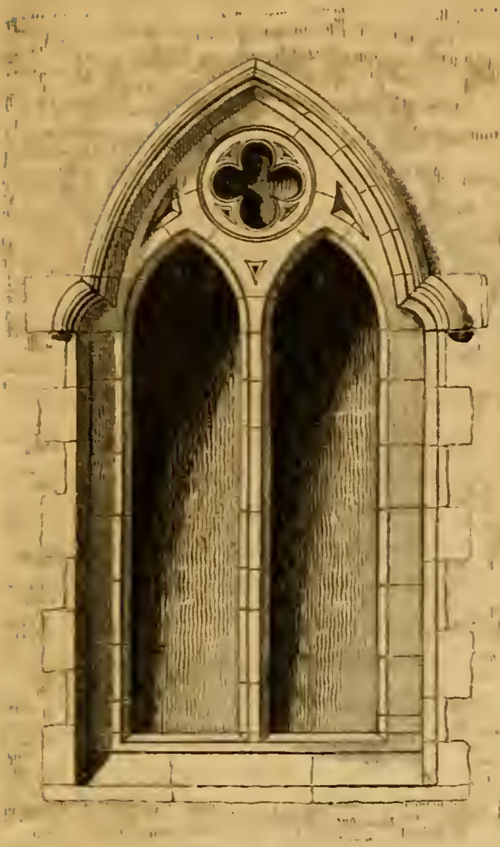

subject than is necessary for the general description of the details for this design.

Fig. 134. may be considered as one of the earliest specimens of the transition from the Norman to the pointed arch; *fig.* 135. is the interior view of the same window, where the pointed arch is splayed, and dies away into the circular one: this was very frequently the case in the early specimens of the style. *Fig.* 136. are two pointed external windows, with a circular one between them; many examples of this kind are to be seen in small village churches. *Fig.* 137. may be considered as the next approach to the mullioned window: the piers are here considerably narrower than in the preceding example, and the heads of the windows are connected by the label. *Fig.* 138. may be considered as the first specimen of a mullioned window, which is, in fact, three days, bays, or lights, connected, under one label, and in one recess, with a circular arch. From this form we may easily conceive that the next, *fig.* 139., would arise, as the only difference is the adoption of the pointed arch label, instead of a circular one, over the three lights, and in having the centre light raised higher than the rest. The centre lights of some Norman buildings of a late period were, however, sometimes raised higher than the side, and a specimen of this may be seen in Romsey Abbey church; so that it must not be considered a refinement of this period. *Fig.* 140. is an interior of a mullioned

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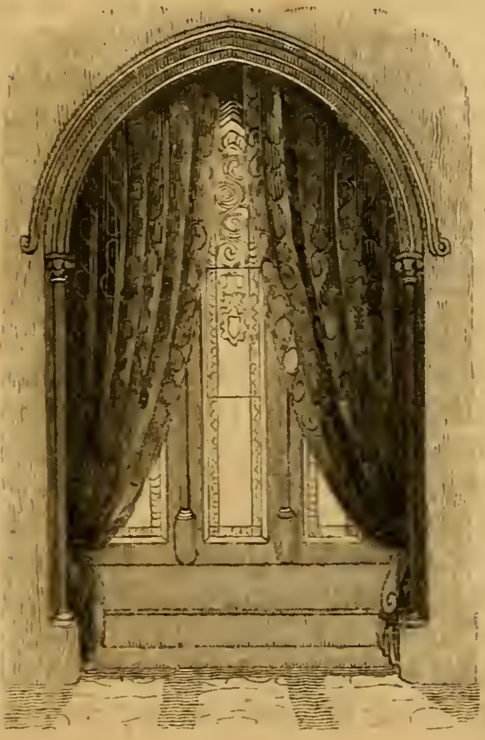

window in a splayed recess, with a segmental pointed arch: this kind of interior window is well adapted to domestic architecture, as the flatness of the arch would not obstruct the light: it was a very common way of building inside windows. *Fig.* 141. may be considered a form approaching nearer to the introduction of tracery; the six-foil panel forming the first germ of this elegant kind of decoration. The external window of the dining-room (*fig.* 131.) nearly resembles this. *Fig.* 142. is an early form of triple window, in a compartment showing a trefoil cornice and parapet; also showing the kind of buttress, &c., used in the earliest buildings of this period. *Fig.* 143. is a window, &c., with columns on the outside: an example of this kind may be seen in the Temple Church, which is one of the purest specimens of the architecture of the thirteenth century. *Fig.* 144. is a straight door head, the lintel supported by corbels: this form of doorway was used in this and the preceding period, where the openings were narrow. *Fig.* 145. shows another specimen, evidently of a later period, as the corbels are now decorated with a rude carving; and one is cut into a hollow, instead of the first rude form. *Fig.* 146. is a window head, linteled in the same manner as the last figure, but with the angles splayed; the projecting corbel was evidently intended to assist the lintel, as the opening at the top would, by this addition, be smaller, and render the lintel less liable to be broken. *Fig.* 147. is a linteled window, in a splayed recess. *Fig.* 148. represents two of the same kind of windows in one recess. In these examples the

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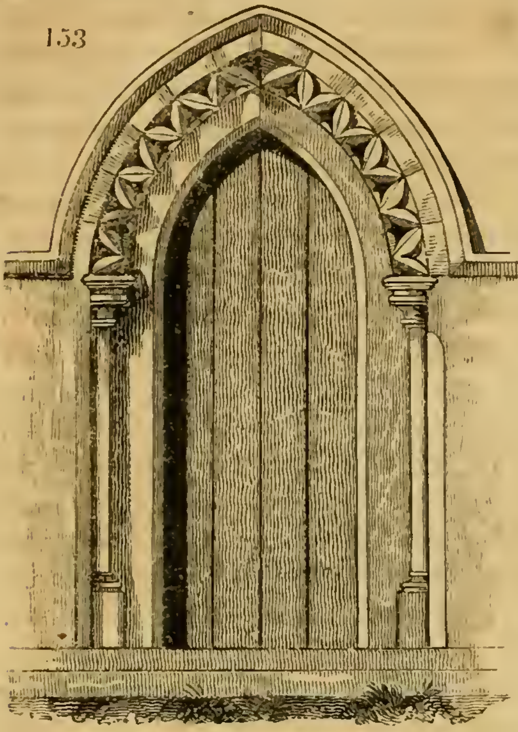

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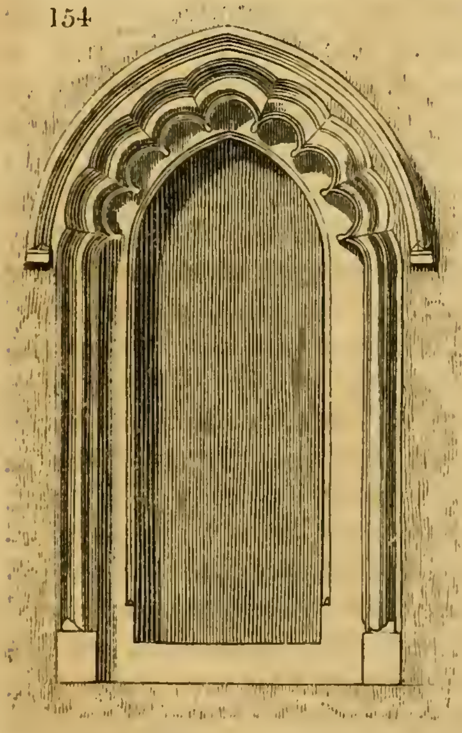
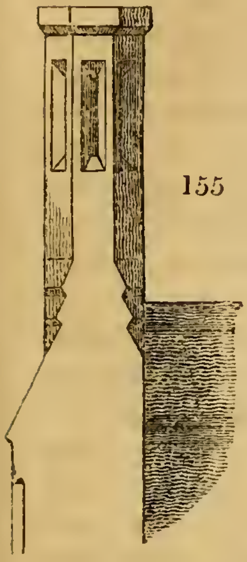


gradual approach to the mullioned window is shown. The pier between the windows became reduced from time to time, and the two corbels were formed in one stone. These circumstances appear to have combined in producing the next specimen, *fig.* 149., which is from Darenth church, Kent. This is a curious and rare specimen of the thirteenth century, and may be considered as, probably, resembling the domestic windows of that period: at any rate, it cannot be denied, that it is well calculated for domestic architecture. *Fig.* 150. is a mullioned window, with a quatrefoil head and label over; an early example from Stone church, Kent. *Fig.* 151. is from the same church: the arched recess is finished by a kind of corbel, which is rather singular for an external window, though it was frequently used inside. These are very good examples, and are well suited to domestic buildings. *Fig.* 152. is an elevation of a window and recess on the inside, showing a method of adapting curtains to Gothic rooms. There are many other forms of windows applicable to domestic buildings of the thirteenth century, during the latter part of which windows were greatly increased in width; but it will not be necessary, at present, to give more examples. *Fig.* 153. is a doorway, enriched with the toothed ornament in the arch. *Fig.* 154. is another doorway, enriched with cusped mouldings. In Salisbury Cathedral there is a small doorway of this form. It will be unnecessary to give more examples of doorways; they took many forms during this century; some were circular, others pointed, segmental pointed, or straight-headed; and some were divided by a column in the centre, from which sprang arches, rising to the large arch, which was very frequently of a circular form. There are, also, many examples of the use of the pointed arch, and of a circular inner arch; and these may be considered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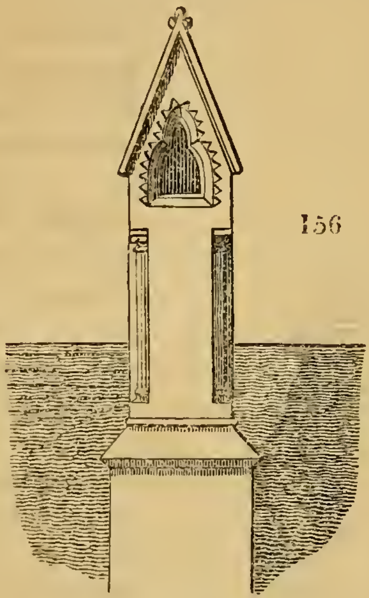
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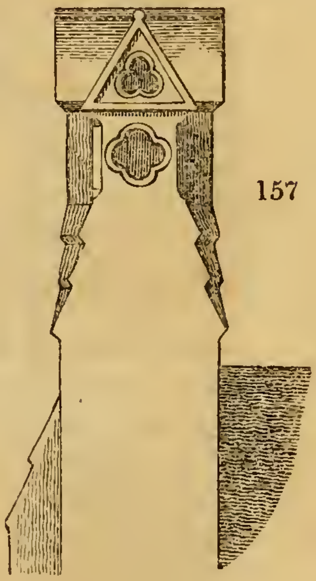
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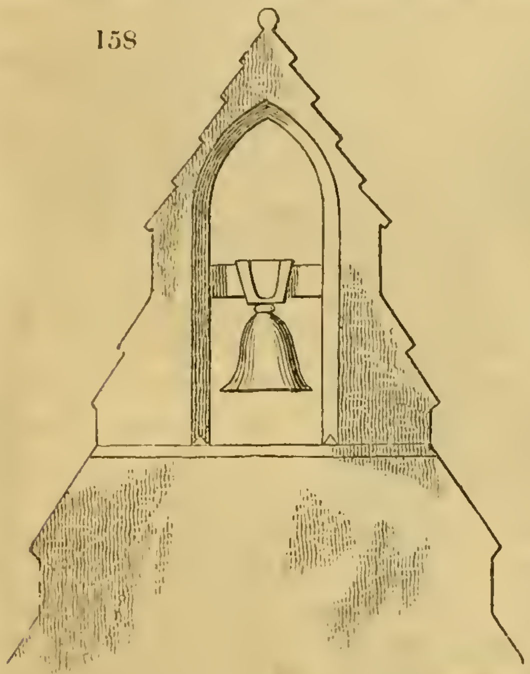

generally as early specimens: but the arch is not the only feature by which we can judge of the date of a building; nor is the construction of the masonry always to be relied upon; for, in the latter particular, I have seen many buildings, of late date, very rude and unskilfully constructed. It is only from the united evidences of the ornaments, mouldings, columns, &c., that we can come to any proper conclusion as to the antiquity of a building: even record will not be sufficient, without the appearance of the building bears a coeval character. Great application, with the opportunities of examining many buildings in various parts of the country, and a mind free from prejudice, together with a skilful and free use of the pencil, are indispensable before entering upon an antiquarian enquiry. *Fig.* 130. is a design for a porch. The principal arch of this porch resembles the doorway on the north side of Stone church, Kent; and, from the mixture of ornament of the Norman style with that of the thirteenth century, it will clearly be seen, that there was a struggle for the ascendancy. Over the arch is a quatrefoil aperture, and the enriched gable is surmounted with a finial: the external angles of the walls are splayed, and, at the top of this splay, is an enrichment. This was a very common manner of decorating the angles of buildings, and some of the ornaments are of very elegant design. The walls are strengthened with buttresses; the entrance doors are richly carved, and are enclosed in a segmental pointed-arched doorway, highly decorated. The side walls have windows glazed with stained glass; the groining of the roof springs from columns in the angles, and at the junction of the ribs are bosses. The whole is constructed of stone, and the outside of the roof is covered with ornamental tiles of a grey colour, or with lead. The porch is square on the plan. *Fig.* 155. is a design for a chimney shaft, in the character of the thirteenth century. *Fig.* 156. is another of a richer design. *Fig.* 157. is a chimney shaft something resembling one at Chepstow Castle, which is delineated in Carter's *Ancient Architecture.* This is a singular and very rare specimen of a chimney top of so early a period; which, from the plate in Carter's work, has the appearance of being of the thirteenth century, though no date is assigned to it. *Fig.* 158. is a bell turret, or gable. This kind of finish to a gable is generally very picturesque; and in many small churches in by villages it is to be seen. In some cases there are two arches under two gablets, as is the case in Faxton church, Northamptonshire. *Fig.* 133. is the interior of the end of the dining-room, showing the fireplace under the recessed windows. *Fig.* 132. is the interior of part of the drawingroom, looking through the breakfast-room.

Of the furniture of this period there are but few examples remaining; but what there are will give us a good idea of its general character. The only specimens that I can now recollect are, the table in the chapter house of Salisbury Cathedral, and the lantern in the crypt of the bishop's palace, Wells, which was formerly in the crypt of the cathedral. These are beautifully delineated in Shaw's *Specimens of Ancient Furniture.* The coronation chair in Westminster Abbey is also of the thirteenth century.

I have concluded this general description of my villa with a brief account of the details incidental to it, my principal object being to give the general reader some clue to the study of this style of architecture. The observations I have made are put together in a hasty unconnected way; but they are the results of some study, and required much time in their formation. Before I proceed with the next design, it will be necessary to make some few observations on the architecture and windows of the middle ages; that, by giving a general insight into the principles on which they were constructed, a greater degree of facility may be afforded to the study of the architecture of the next period of which I shall treat.

25. *Henrietta Street, Brunswick Square, February,* 1835.

Art. VII. *On the Dwelling-Rooms of a House.* By I. J. Kent, Esq., Architect.

(*Continued from* p. 233.)

It has been suggested to me, that I may be misunderstood in advising that a piano-forte should be placed in the dining-room, and that some persons may imagine I have recommended this as the only fit situation for one: such is by no means my intention; on the contrary, I would have an instrument in the dining-room, the drawingroom, and in the ladies' boudoir: in fact, every apartment used as a sitting-room is, in my opinion, incomplete without one. In the library an organ would, perhaps, be more appropriate.

When I so strongly recommended a piano-forte for the dining-room, I was thinking of a numerous and educated class of society, who possess the means of providing themselves with every comfort, and some of the luxuries of life, but who, having their whole time during the day occupied by professional or mercantile engagements, do not mix with their family or private friends until dinner time; and who then, perhaps, being surrounded by their domestic circle only, or an intimate friend or two, may be disposed to pass the remainder of the evening in the same room. On their "company days," as the children call them, the drawingroom piano-forte will, of course, be in request. In the dining-room, after dinner, we may consider the ladies who remain with us as our visitors; the drawingroom, music-room, and ball-room belonging more especially to them.

The custom in England of remaining so long in the dining-room after the ladies have retired is, to my mind, altogether a mistake. Our Continental neighbours, in this respect, are decidedly in advance of us in civilisation, if what I understand to be the practice in France be correct, namely, that the gentlemen leave the table with the ladies, or soon after them, for the drawingroom.

The principal reason why I recommend so strongly that every sitting-room should be furnished with a piano-forte is, that ladies always appear to me to be more at home in a room where there is one; it is a preparation for their reception; for, being more especially dedicated to their use, its presence is a compliment to their sex, and proves that they are valued.

Then in the library, where I have placed the organ, how delightful, on a Sunday evening, to retire there with our family, and listen to sweet strains of sacred melody that soften the heart, melt us into feelings of humanity, and elevate our thoughts to that God to whom we owe all.

With respect to the form of the table, which I recommended in my last remarks, it has been objected that the round table is not capable of accommodating the same number of persons at dinner as the long one, and that, where the former is used, the room should be octagonal. I do not see the force of these objections, unless when a very large party is to be provided for; in which case it is, of course, next to impossible to accommodate a numerous company without long tables; but in large parties, comfort, conversation (except with those near to us), or, indeed, any real enjoyment, is out of the question. Grand dinners may minister to the pride of the host, but do not contribute to the enjoyment of himself or his guests. The room I have recommended was designed for a moderate family and its friends only.

A contrivance not yet mentioned, but which is particularly applicable to a dining-room, is a tube, or speaking-pipe, fixed out of sight, and communicating with the kitchen, servants' hall, or waiting-room. The orifice of this pipe should have a weighted slide, to be lifted up while you are speaking and receiving an answer, and which will afterwards close of itself; for, if left open, the sounds will be conveyed from the dining-room to the kitchen, and from the kitchen to the dining-room. The gentleman's ante-chamber I would fit up as a dressing-room, with wardrobes and drawers, and a washhand-stand, fitted with a small pipe and plated urn cock, a plug at the bottom of the basin, and chain, and a pipe to convey the waste water away. Hot water, as well as cold water, may here be supplied; the hot from the kitchen boiler at the back of the range. In this room I would likewise have a warm bath, with a shower bath over it.

The stove, fender, and chimneypiece in the dining-room should correspond in style and character with the apartment itself. Bronze or brass ornaments, on a black ground, or wholly black, are most appropriate. Polished steel and cut steel decorations I would reserve for the drawingroom; but here let me enter my humble protest against representations of the human figure, or, indeed, of animals, of whatever kind they may be, on a stove, or under any circumstances in which, in reality, their introduction would be painful or ridiculous; therefore it is that Caryatides, in a country like England, which boasts of its freedom, and prides itself on the high estimation in which females are held, are, in my opinion, inadmissible; and I never pass St. Pancras church without regret that, in a building in which so much good taste and feeling for art is exhibited, these remains of brute force and barbarism should be introduced.

The Caryatides (female figures in long drapery, supporting heavy entablatures) are said by Vitruvius to have been intended to represent the matrons of Carya, a city of the Peloponnesus, the male inhabitants of which, he says, having joined the Persians under Xerxes, were afterwards put to the sword by the other Greeks, and the females led into captivity. Vitruvius asserts that the Greeks invented these statues to perpetuate the memory of the destruction of Carya, and to hold its inhabitants up to infamy: and for what? For endeavouring to preserve their freedom, and for defending themselves from their enemies, who attacked them with the avowed intention of destroying their city. Supposing Vitruvius's explanation of the origin of the Caryatides to be correct; or even supposing the figures to be, as modern writers suggest, those of the virgins of Diana Caryatis, or, as others think, of Egyptian origin; can any thing, to a reflecting mind, be more revolting than to see the female form thus degraded into a mere support of heavy burdens? Moreover, in the Pandroseum, or temple of Pandrosus, in Athens, from which the architect has copied the Caryatides employed in

St. Pancras church, the superincumbent weight is so prodigious, as to produce no other sensations in the mind of the beholder than those of pain.

The ornaments to be used on stoves should be representations of things which, if real, could be looked at with pleasure in the situation in which they are placed: such are indefinite or ideal forms, or ornaments derived from the component parts of architecture. I am an advocate for the representation of flowers, or fruit, or shells, or even of animal life, when not in a position that creates unpleasant feelings, on chimneypieces in general; but for the dining-room chimneypiece, I should prefer an architectural rather than a fanciful design.

The fender, it appears to me, should form a part of the stove; at all events, it ought not to be, as is now too generally the case, altogether considered a matter of indifference whether the fender partake or not of the character and style of decoration of the stove. It should seem to belong to it, and, indeed, even to support it. The length of the fender should be either the whole width of the chimneypiece, or, where the opening is large, only the width of that opening; at all events, the fender should be designed for, and belong to the chimneypiece and stove; and, I think, it might in some way be attached to the one or the other. Contrivances of various kinds have been introduced to get rid of the dust accumulating during the day; a very good receptacle for this may be formed, by keeping the bottom of the fender 2 in. above the floor, and the place into which the dust is to be swept, 2 in. below the level of the floor, with a movable grating over, and a box made to fit the receptacle, with handles, so that the servant may take it away without any portion of the dust it contains being dispersed over the room, as is now the case every morning when the stove is cleaned, and which, if the dust is swept up without care, is destructive alike to the carpet, curtains, books, &c.

Being a lover of flowers, I should like to have a veranda or small conservatory connected with the dining-room, supposing this to be the general family room, and not one kept exclusively for dining in; but if I had a veranda, it should be roofless; for, the aspect being to the north, I would not on any account impede the light during the winter months; as this would give a sombre character to the room. Even were the roof of the veranda glazed, this effect would certainly accrue. I like an abundance of light; it contributes to cheerfulness, and is easily diminished, if found oppressive, by blinds or curtains.

The window or windows of the dining-room, therefore, should be large; they should be carried up as high as possible, and brought down to within 6 in. or 8 in. of the floor, being made to open so as to give free egress and ingress: this, in summer, is indeed a luxury.

I would form this veranda by narrow trellis standards, at convenient distances, with a trellis frieze and movable ribs for an open roof. At the standards I would plant different kinds of clematis and vines; the evergreen and Chinese honeysuckles, the hardy bignonias, the passion flower, wistarias, and climbing and sweet-scented monthly roses, &c.; but, if I had a conservatory, I would support it by standards 4 ft. or 5 ft. apart, having a path 4 ft. to 6 ft. wide along the centre, with flower-stands on each side, and the roof kept as low as convenient; for the nearer the glass is to the plants, the better they thrive. Around the supports I would place choice creeping plants, including those already named, as applicable to the exposed veranda, as well as others requiring more protection. The Camélli*a* japónica, orange and lemon trees, the yellow jasmine, myrtles, and other half hardy plants, might be planted in the soil, and thus obtained in great perfection. The conservatory may be heated, at little expense, by hot water circulated through gas-pipe tubes carried along near the floor.

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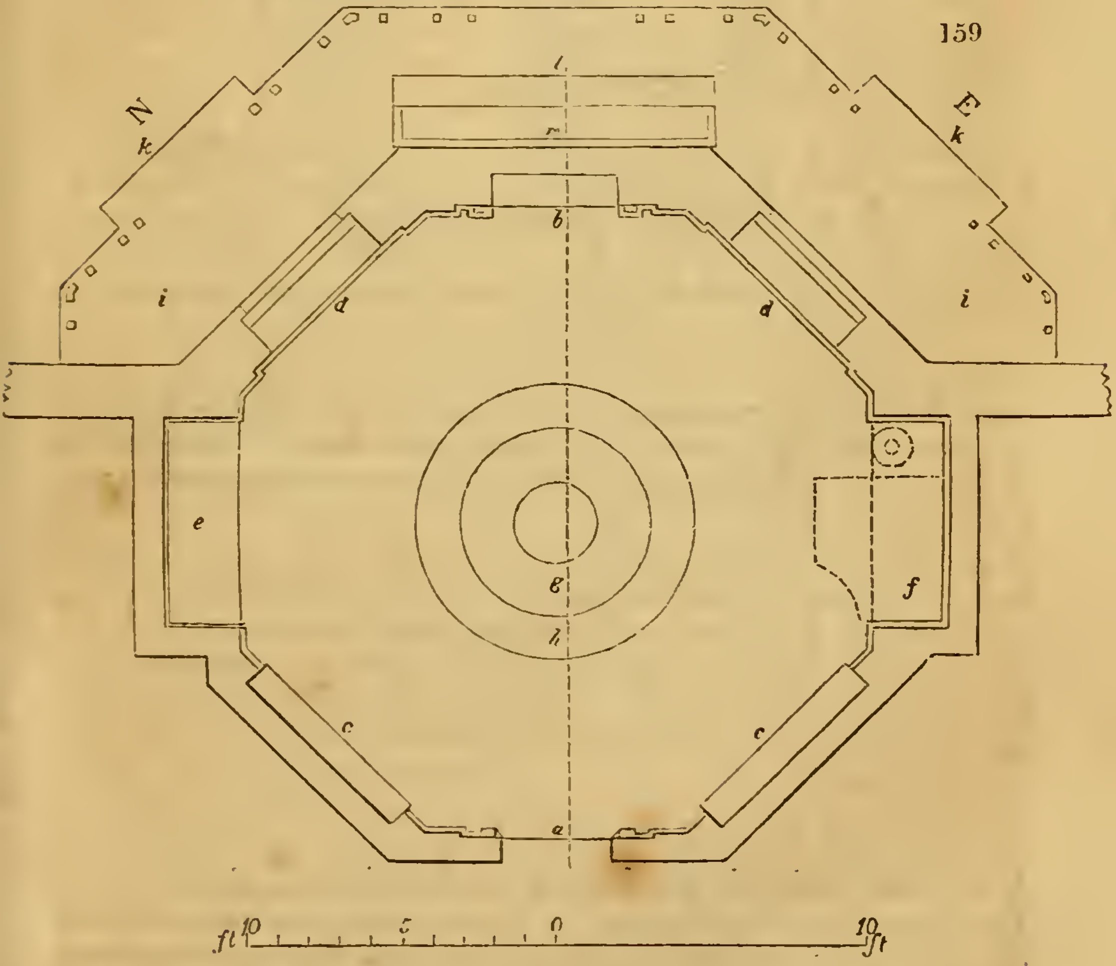

At the suggestion of the friend who objected to the round dining-table, unless it were placed in an octagon-shaped room,

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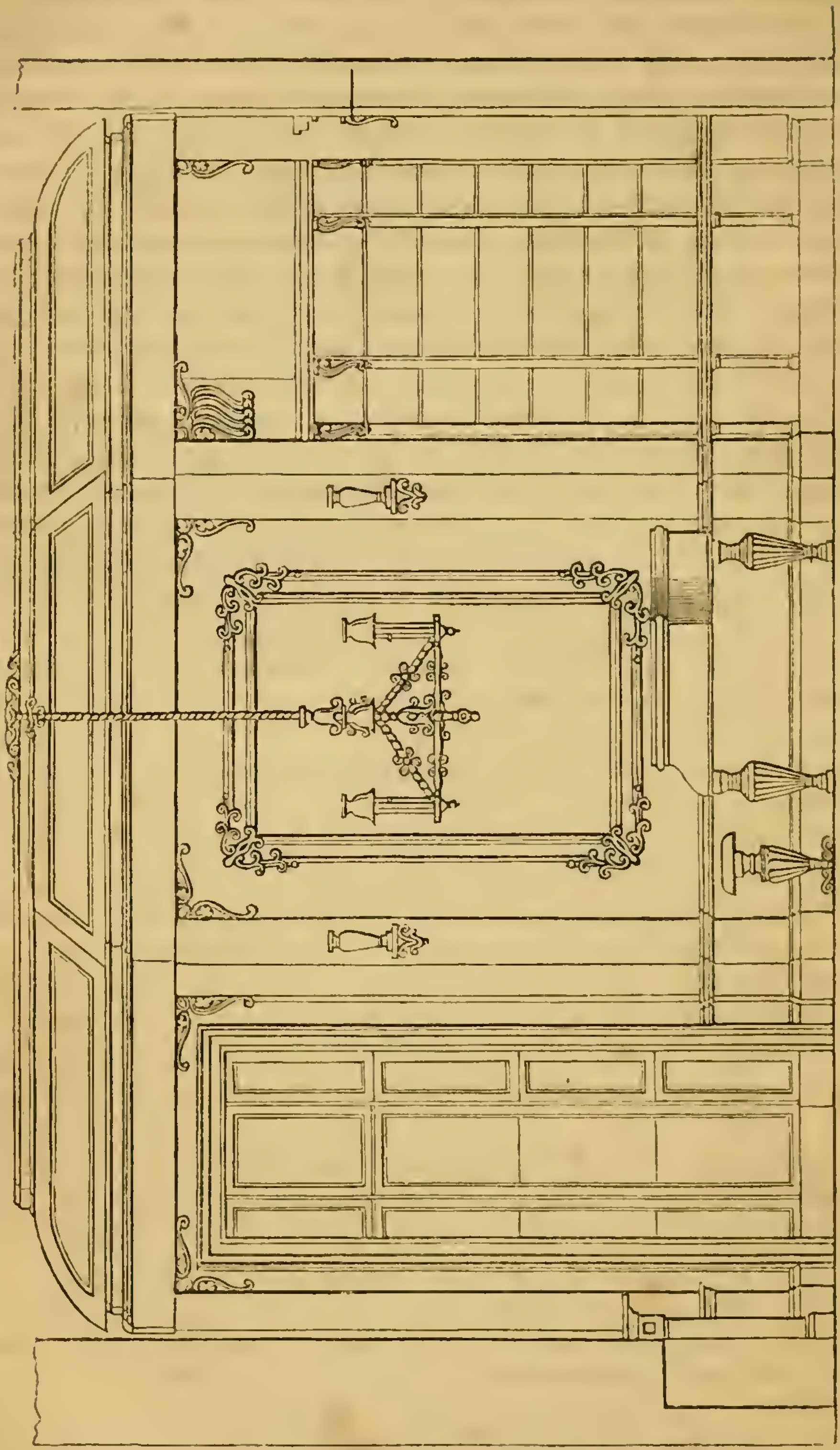

I have sent a sketch for a room of that shape. (*fig.* 159.) In this figure, *a* is the doorway ; *b*, the fireplace ; *c c*, book-shelves ; *d d*, windows ; *e*, recess for the sideboard ; *f*, recess for the pianoforte ; *g*, dining-table, 6 ft. in diameter; and *h*, additional pieces, to increase its size to 9 ft. in diameter when requisite. (see p. 223.)

Fig. 160. is a section on the line A B, on the plan. The diameter of the room is 20 ft.; the height, up to the top of the cornice, is 12 ft., and the height up to the ceiling, 13 ft. 6 in. From the top of the cornice springs a cove, which is shown as paneled. In the centre of the ceiling is a plaster or *papier-maché* flower, 3 ft. in diameter, round which might be stenciled a Grecian honeysuckle ornament. From the centre of the flower is suspended a chandelier. The windows are folding casements, opening on a terrace of Portland stone (*fig.* 159. *i i*), with steps (*k k*) down to the gravel walk. A veranda is shown all round the bow; the part (*l*) over the garden chair (*m*) to be roofed; the other parts, with ribs only, for the clematis, honeysuckles, roses, &c., to be trained on, which in summer will afford an agreeable shade, and in winter may be tied back, the ribs and standards to this part of the veranda being removed if thought fit.

Manor Place, Paddington, April 20. 1835.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Domestic Notices.*

ENGLAND.

PLANS for the Improvement and Architectural Beauty of the Metropolis are continually being suggested; but it most frequently occurs that they are seldom or never executed, wanting means or the aid of government to adopt and support them. It is not my intention on this occasion to make more than one remark, as, if I were to write all that occur to me, they would occupy several pages. It appears to me that many of the accidents now so frequently happening from carriages might be avoided, if something of an obelisk, ornamented with branches at the top to support lamps, or a monument in commemoration of some victory, or erected to the memory of some distinguished individual, were placed in the centre of that large area of ground at the bottom of King William Street, enclosed with an iron railing, for passengers to land safely on, when vehicles of every description are approaching in all directions. There is something of the kind before the Mansion House, though, in that case, there is no architectural display whatever attempted, it being only a mere post, partly enclosed. Opposite the Elephant and Castle Tavern is another place in which such an enclosure would be very useful, and might prevent many of the accidents to which the pedestrians in that part of the metropolis are exposed. If a monument were erected on the first site, there should be something in the style of its construction to correspond with that of the bridge, and of the adjacent buildings; or some architectural design, well adapted for a site near the water, might be adopted, which would greatly add to the beauty of the neighbourhood. — *A. N. London, March,* 1835.

A Mathematical Instrument for Drawing has lately been brought to a high state of perfection by Mr. W. S. Hook of Hampstead. It describes ellipses, circles, lines, or any parts of them, and determines their quantities with great ease. It is an instrument which will aid the astronomer, the architect, the navigator, the engineer, or mechanic, and will facilitate their enquiries with the greatest accuracy and expedition. The price is from 2*l.* 10*s.* to 3*l.* 10*s.*, in a plain frame, with the degrees marked; or with a drawing-board, &c., from 3*l.* to 4*l.* 10*s.* This instrument is exhibited at the National Gallery of Science, Adelaide Street, Strand.

Cambridgeshire. — A new library, for which there is a very handsome subscription list, is proposed to be built for the University of Cambridge. (*Cambridge Chronicle*, March 27. 1835.)

Kent. — *Woolwich.* In consequence of the complete success of the Steam Packet Company, a pier is about to be erected at this place, from the designs of Mr. P. Barlow, jun., civil engineer. — *S. Clapham, April* 1835.

Lancashire. — *Manchester.* A new corn exchange is about to be erected here, on a scale suited to the rapidly advancing importance of the corn trade in this manufacturing district. In December last architects were invited by advertisement to send in designs, and premiums were offered for the first and second in merit. Numerous drawings were received by the committee, reflecting a high degree of credit upon the respective artists; and, after mature deliberation, the plans of Mr. Lane were unanimously adopted at a general meeting of the shareholders. The front is to be built of stone, and consists of a central portico of six columns, from the example of the Ionic temple on the Ilissus, placed upon an elevated stylobate; there are two entrances at the sides, which form wings in antæ. The elevation has one peculiarity, in which it differs from most modern buildings, arising from the interior being entirely lighted from the roof; there are thus no windows to interfere with the bold and classic effect of the portico. The works will be commenced immediately, and it is expected the building will be finished ready for occupation by the first of January next.

A new School for the Education of the Deaf and Dumb is also in contemplation; it is intended to be built about two miles out of the town. The committee have already advertised for plans. — *Mancunius. March* 17. 1835.

Wiltshire. — A public granary is about to be erected in Salisbury, on what appears to us a plan well worthy of imitation in other counties; we mean as to the raising of the money by shares, and the plan of management. We have not heard whether an architect has been yet appointed. Other market towns which contemplate such a granary may profit by consulting the *Salisbury Journal* of February 20.

Worcestershire. — An extensive building is now being erected in Worcester, containing a shire hall and courts of law, with the proper offices attached thereto, clerk of the peace's offices, and rooms for depositing the county records, &c., together with a large house for the judges and magistrates, from the designs and under the superintendence of Mr. Day, the county surveyor. — *Z. April* 20. 1835.

Our correspondent and extensive contributor to our *Encyclopædia of Architecture*, Mr. Varden, a talented young artist and architect, and a most respectable and excellent man, has recently purchased the business of a retiring architect in Worcester, and established himself there. In addition to his architectural knowledge and taste, Mr. Varden possesses very considerable skill in the art of laying out grounds, and it would be greatly for the benefit of the country gentlemen of Worcestershire, and the adjoining counties, if they were to consult him on this subject as well as on architecture. A gardener may have the first rate merits as a cultivator, and be able to lay out walks and roads remarkably well, and yet know nothing of what it is to look on nature with the eye of an artist. We have always said that one test for the fitness of an architect for designing buildings for the country should be his knowledge of landscape-drawing. Now Mr. Varden, besides being a beautiful architectural draughtsman, excels in drawing landscape, and so much so in drawing trees, that many of those engraved for our *Arboretum Britannicum* are from drawings by Mr. Varden, made from nature in the Horticultural Society's Garden last autumn. We are most anxious to introduce Mr. Varden to all our friends and correspondents for thirty miles round Worcester; even to architects and landscape-gardeners; for Mr. Varden is much too independent in his circumstances, and too honourable-minded in his conduct, ever voluntarily to interfere with the connections or interests of any individual whatever. — *Cond.*

SCOTLAND.

A Philosophical Society is about to be instituted at Edinburgh, the subscriptions to which are intended to be so moderate as that the working classes may belong to it. A scientific library is to be formed, the subscription to which will be only 5*s*. a quarter. The founder, or chief instigator, of this institution is Dr. D. B. Reid, a distinguished lecturer on chemistry. One of the sections of the Society is to be devoted to engineering and architecture. Such institutions will, sooner or later, be established in all our principal towns.

Forfarshire. — *A Stone-Planing Machine* has recently been invented by Mr. Hunter of Leys Mill, Arbroath, which promises greatly to reduce the expense of dressing stones, and especially flag stones. The work is performed with extraordinary rapidity and accuracy, and at so little cost of labour, that the wear of one halfpenny worth of steel will polish a hundred superficial feet. During the summer of 1834 four of these machines were at work in the Arbroath quarries, and there planed upwards of 100,000 feet of pavement. There are now five machines at work in the quarry, wrought by a steam-engine of six-horse power, which has also to work two inclined planes, one of which is for dragging up the stones from the quarry to the machine. W. F. L. Carnegie, Esq., who has sent us various details respecting the work performed by this machine, promises some explanation of the principle on which the invention rests its claim to novelty at a future period, which we shall be glad to receive. In the mean time we refer our readers, for further details, to the *Mechanic's Magazine* for May 2., vol. xxiii. p. 73. The Arbroath pavement is remarkable for its property of not being readily permeable by moisture, and it is, therefore, particularly well adapted for flooring kitchens built on damp soils, for curing damp walls, for paving the paths of hot-houses, and even for forming garden walks. (See *Gard. Mag.*, vol. xi. p. 291.)

ART. II. *Retrospective Criticism.*

COMPETITION Plans.—There are some observations from a correspondent, in p. 143., on the subject of competition plans, not quite consonant to my views. I am well aware of the difference between the " constructive architect and the mere architectural draughtsman," and that many of the latter class may be expected to be in the lists of competitors, and that, on most occasions, their drawings are such as not to be distinguished by ordinary persons. From this, however, I do not draw conclusions unfavourable to the use of private marks, which I still think the best means of insuring an impartial decision; but I rather consider it a stronger reason than before occurred to me for submitting such plans to one or two competent professional judges, unconnected, as far as could be ascertained, with any of the parties. These might be instructed (without regard to pictorial display, any farther than is necessary to exhibit the designs in a true and natural light) to separate those which do not evince sufficient practical knowledge, as far as can be determined from drawings which are never meant to enter into the particulars of construction, leaving the rest to the decision of the committee, of which the professional judges might be members. There are, no doubt, difficulties attending this method; but I cannot, on that account, think it advisable to have recourse to unlimited competition with open signatures, because I think, in such cases, there would be but few " well-known names;" and they, whether few or many, would be relying, and, perhaps, with reason, on the influence of those names, to the exclusion of, perhaps, many a deserving and talented competitor, whose only fault would be not being " well known." It would be, certainly, fairer, at once to select approved persons, and give them alone the choice of competing; which, however, it is probable but few, if any, established architects would accept, unless they knew that they had sufficient interest at court to insure success, it being generally understood that the merits of the plans alone, when either names, or clues to names, appear, are not a sufficient guarantee for that purpose.

Competitions, then, are, at best, a species of lottery, not to be generally commended; and, I think, all parties would be better served, if a certain number of architects, regularly bred, travelled, and well recommended, were required to furnish plans, under a sign, to be paid for on a scale proportionate to their merits, to be decided by competent judges; or even if one or two only were engaged, with instructions to make such personal observations on some similar buildings, in any part of the country, as might be deemed useful, if required. I think that none need doubt the benefit of such a course; or that any young architect, if it were pursued, would be without an opportunity of exhibiting his title to notice much more effectually than by the present mode of competition. Be it as it may, however, I think it will be found that few, if any, men of any eminence in the profession ever become competitors, except where they have some interest; in which case, of course, it could no longer be a fair competition; although, very probably, in many cases this favoured person might still be the most deserving of success. As there is no bar whatever to any one fancying himself qualified to furnish designs, it follows that the majority given in may be those of a class not regularly educated for the profession. This leads me to remark the injury that the science of architecture must receive from a want of some protecting examination and qualification, as in the legal and medical professions, in order to prevent so many monstrosities and incongruities as are constantly intruding themselves under the fostering care of some practical architect (as the carpenter, mason, or builder, is sometimes termed), permitted by the lamentable indifference, or want of taste, of the proprietor, if the builder does not combine both titles. I conclude by saying to such, "*Ne sutor ultra crepidam.*" — *Architectus. April* 11. 1835.

Art. III. *Queries and Answers.*

The Fire-proof Buildings of le Comte d'Espie. — In a review in the *Gentleman's Magazine* for 1756, of a work on fire-proof buildings, written by the Comte d'Espie, is the following paragraph: — "Mr. Beckford [of Fonthill] is rebuilding his house that was lately destroyed by fire, in this manner, under the inspection of French workmen, sent to him by the count at his request." Does any part of this house of Mr. Beckford's still remain? and, if so, are the arches perfectly secure? — *A. L. Bayswater, February* 24. 1835.

Is not the patent Stove Grate, advertised by Messrs. Mapplebeck and Lowe of Birmingham, as curing smoky chimneys, and not requiring a fender, the same thing as Sylvester's curfew stove, figured in your *Encyc. of Cott. Arch.?* — *J. S. London, May* 5. 1835.

Art. IV. *Obituary.*

Durand. — On the 1st of January 1835, this architect died, at Thiais, near Choisy le Roi. He was formerly professor of architecture at L'Ecole Polytechnique; and he may be said to have performed a signal service for students all over Europe by his *Leçons d'Architecture*, and his exceedingly useful synoptical work, entitled *Recueil et Parallèle des Edifices de tout Genre, Anciens et Modernes.* Greatly were it to be wished that some one would produce a supplementary volume or volumes to the last-mentioned publication, embracing a similar parallel of buildings of the middle ages, drawn to the same scale; and, also, of the principal modern buildings not included in Durand's work.— *W. H. L.*

give some idea of one which, in my opinion, is capable of fulfilling all we can desire in such a room:—

Imagine a comfortable family room (*fig.* 128.), from 20 ft. to 24 ft. long, 15 ft. to 18 ft. wide, and 11 ft. to 13 ft. high, with the bay window (*a*) looking to the north, or perhaps a little west: this might be large, and reach down to within 6 in. of the floor,

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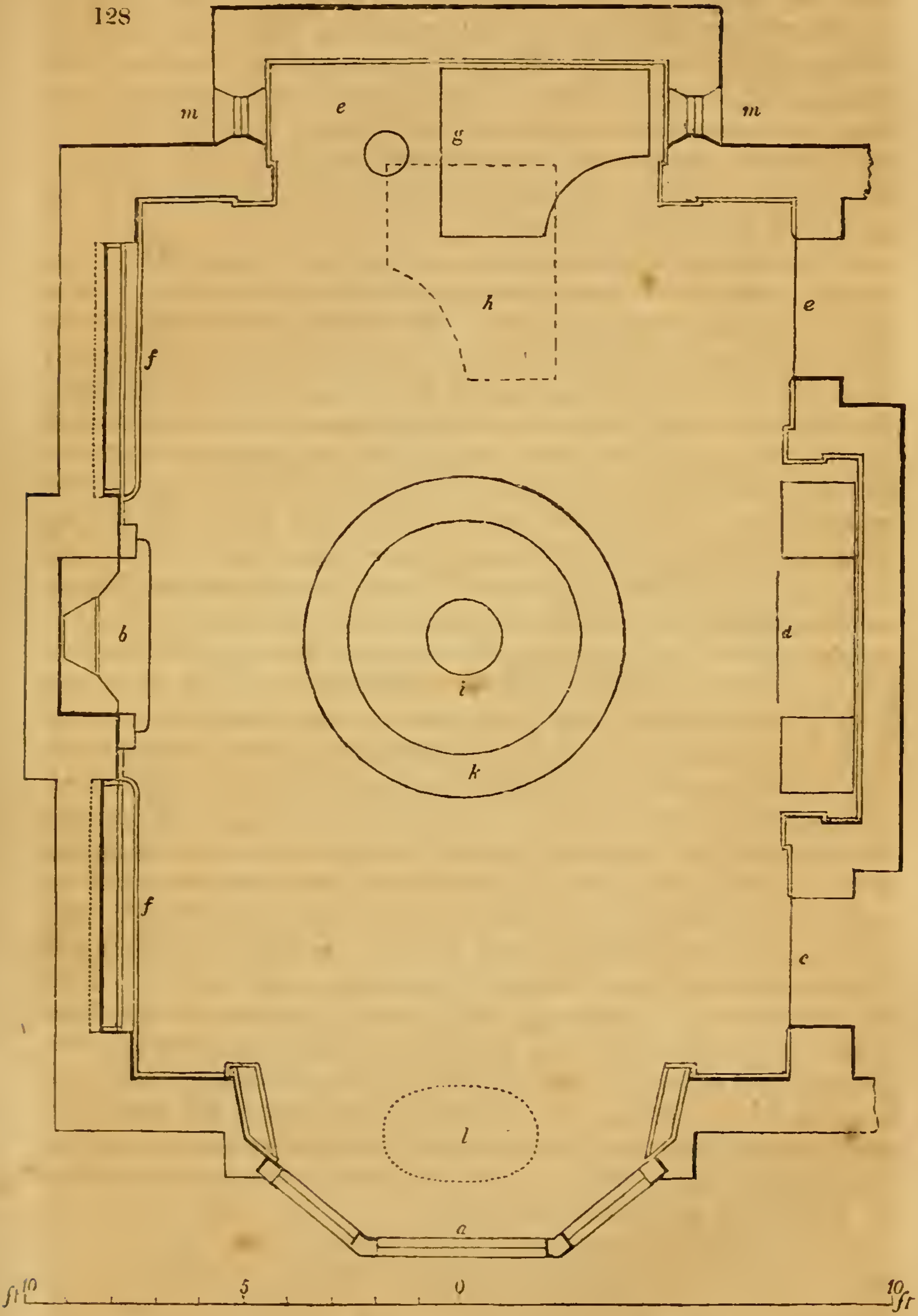

so that a view of the adjoining flower-garden, no less than of the distant country, might be commanded by it. The fire-place (*b*) should be on one side of the room, and on the opposite side the doors (*c c*); a recess at *e*, the usual place for the side-board, may be occupied by a piano-forte, which the lover of music will perhaps think, with me, is much better; and at each end of the recess for the piano may be small stained glass windows (*m m*), to throw light on the instrument when it is used by daylight, and yet to be sufficiently subdued not to interfere with the general tone of colour of the room. In this case the sideboard may be placed at *d*.

Now let us furnish the room. With the assistance of the ladies, we will endeavour to do so. The carpet should be a good Axminster or Brussels, of a well-covered pattern, in circles or octagons, such as used to be common twenty years ago, with rich brown colours, and flowers, &c., of glowing tints; looking as though we were treading on something warm and comfortable, and like home. Or, if the young folks prefer it, we may cover the floor with a Persian-patterned carpet of the present day. The walls, as we have said before, might be crimson, or some lighter, but still warm, tint, covered with engravings of subjects that produce in our minds the most happy and agreeable ideas: no deaths of naval or military heroes; but such subjects as elicit grateful thoughts and feelings; Claude-like views of out-of-door nature, that never can be looked at and dwelt upon without feelings of serenity and thankfulness to the beneficent Giver of all Good. Perhaps, though we do not mean to be extravagant, a favourite painting or two may be added. We would also have a few plaster brackets from the antique fixed against the wall, and painted in a warm tone of colour, or bronzed, with some casts of the busts of our favourite authors, and some of two or three of the most celebrated Grecian vases ornamented with mythological figures, on them, and over our bookshelves. On each side of the fire-place we would have the bookshelves (*f f*), the lower ones broad, to contain some old folio copies of our favourites, — Lord Bacon, Dryden, Cowley, Du Bartas, and others, of which we may be the fortunate possessors. On the shelves above may be copies of Shakspeare, Chaucer, Milton, Pope, Cowper, &c., not forgetting our more modern authors, Scott, Byron, Crabbe, Leigh Hunt, &c.; and we would have a scagliola pedestal or two, if we could find room, to support the busts of Shakspeare and Milton, if possible, in stone. We would take care likewise to provide a secure repository for printed music, which young ladies are so apt to rend and tear. This should be so placed as to be conveniently reached by the performer, and should be divided so that the music may be classified. We would moreover have one or two music desks near the piano-forte, made to fix on brackets, for those who may perform accompaniments; and, as we have not room for a grand horizontal piano, we will choose one of Wornum's new cabinet semi-grands, which, with a facetious perversity, he terms "pocket grands:" these instruments having a tone like an organ. But, had we room, and could afford it, we would most assuredly possess one of Erard's horizontal grand pianofortes, not only for its magnificent sound, but for its extraordinary freedom of touch; in which respect it equals the very best German instruments, while it surpasses them in every other. If the horizontal piano be preferred, it may either stand in the same position as Wornum's, as indicated by the line *g*, or project into the room, as indicated by the dotted line *h*.

The furniture of the room we will have of mahogany, consisting, besides what is already named, of the dining-table and chairs, which should be solid and substantial, and of the finest wood, but plain and uncarved; the whole beautifully French polished. The dining-table we prefer to be circular, which our friends can really sit round, see and be seen, speak and be spoken to; such, in short, as is described in the *Encyclopædia of Cottage, Farm, and Villa Architecture*, p. 829., "as a circular table (*i*), in its ordinary form, capable of dining eight persons; and by the addition of marginal rims (*k*), each 20 in. broad, of dining twenty persons." Of course, the size of these additional rims will depend upon the size of the room, and on the number of persons to be accommodated. If a long table should be preferred, the smallest size should be 6 ft., and the largest 10 ft.; the additional size being gained by detached leaves. The centre of the table should be occupied with flowers, or some ornament not holding any thing required for the dinner; and by this means the dishes will be brought within the reach of the company.

The curtains we will have a geranium-coloured moreen, with gold fringe and binding; they should be made to draw, and have a gilt cornice over them. In the bow of the window may be a flower-stand, or small oval table (*l*). The sideboard should be fitted up with every convenience possible (for, as we have before said, we cannot admit closets); and under it we will have a sarcophagus for wine, having means within it for cooling the wine with ice in hot weather. The room may be lighted at night by lamps suspended from the ceiling; but we prefer a chandelier with candles and metallic wicks, having ground glass shades, and similar candles and shades for the instrument.

In such a room as this, so fitted up, and furnished with a few tried friends, may be realised all we can conceive of social and domestic in-door happiness; and then, indeed, should we listen with delight to our favourite song or piece of music; or discuss without alloy the beauties and defects of our long-cherished authors, or of some more recent production of the day.

Manor Place, Paddington, March, 1835.

REVIEWS.

Art. I. *Remarks on the Architecture of the Middle Ages, especially of Italy.* By R. Willis, M.A. F.R.S., &c., late Fellow of Caius College. 8vo, numerous Plates. Cambridge, 1835.

We shall examine this work in detail on a future occasion; in the meantime, to show the architect that it is one of very great interest, we make the following quotation from the preface: — "The original observations from which the following pages have been compiled, were made during a rapid tour through France, Italy, and part of Germany, in 1832-3. Two things particularly attracted my attention during the journey; the undeserved neglect with which the Italian Gothic had been treated; and the influence of locality upon each style of the middle age architecture. I was soon led to suspect that this architecture was susceptible of much more extended generalisations in its principles than had hitherto been attempted; and I have ventured to point out the road to some of the most obvious.

"Amongst other objects, I was naturally led to search for evidence that would throw light upon the origin of the pointed arch. There is a fascinating simplicity about that theory, which would derive it from the acquirements of vaulting, that makes one wish to find it true; but I am sorry to say, that, notwithstanding the favourable prepossessions with which I set out, I have been compelled to dissent from this ingenious hypothesis. It appeared, from an examination of buildings belonging to the period of the introduction of this arch, that it was only one of a great number of new forms then introduced into architecture; such as trefoils and ogees. A theory, therefore, that only accounts for one of these, must be imperfect: but this is not the only weak point about the one in question; for, so far from the pointed arch being necessary to enable a parallelogram to be vaulted, it appears that architecture was already in possession of several methods of performing this, which were not even superseded by the introduction of that form, but continued in use to the latest period of the middle ages.

If this theory must be rejected, it may be asked, what other is to be substituted? I do not believe that we have sufficient data to determine the question; but, as so many observers in all countries are occupied in the collection and publication of examples, this deficiency is daily diminishing: in the mean time, I am inclined to think the balance of evidence in favour of the Saracenic origin of these forms." (*Preface*, p. v.)

Art. II. *An Historical Essay on Architecture.* By the late Thomas Hope. Illustrated from Drawings made by him in Italy and Germany. Royal 8vo, with a Volume of Plates. London, 1834.

Only a limited number of this work having been printed, it no sooner appeared than the edition was exhausted; and, as we have reason to believe that the new edition will contain several improvements, we defer a farther notice of the work till it appears.

Art. III. *A History and Description of the late Houses of Parliament, and ancient Palatial Edifices of Westminster, &c.* By John Britton and Edward W. Brayley. Nos. III. and IV. for March and April, 1835. 8vo, London.

This accurate and most interesting work goes on well. The letter-press has already extended to 112 pages, and brings down the history of West-

THE
ARCHITECTURAL MAGAZINE.

JULY, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *Some Observations on the Principle of Utility, as governing the Application of Columns.* By E. Trotman, Esq.

So far is the science of architecture from being immutable and uninfluenced by the lapse of years or the fashions of the day, that we find it receiving, from time to time, new modifications, and yielding to new impulses of the prevailing taste. Not only do we observe the antique style of one period falling from maturity to corruption, as the seed from which spring fresh systems of high and widely spreading beauty; but we see also, in the cultivation of each style, almost every succeeding generation adopting some novelties of treatment, and rejecting, to a greater or less extent, the established rules of its predecessors. That such changes of opinion and practice should be frequent in the progress of those sciences which are affected by every newly discovered fact in mechanics or natural philosophy, we stand prepared to expect; being, in the pursuit of these subjects, restricted by the dicta of antiquity only so far as those dicta are identified with testimonies of our own experience. It is not, however, equally obvious, at the first glance, how architecture should afford opportunity for variations, not only so numerous in points of detail, but so important in principle, accustomed as we are to hear on all hands the appeal to the standards of antiquity as decisive upon excellence, and to have the consideration of precedent urged upon us at every turning, as if the whole system had been finally fixed and consolidated by the labours of our long-departed predecessors in art. Yet the admirer of Palladian specimens, and the imitator of Athenian, differing so widely as they do, plead equally the sanction of old authority; while the critic who would decide between them, actuated by the same respect for antiquity, probably cannot agree with either. These differences, however, cease to afford matter of surprise, when we observe the limitations that confine the view of each. The follower of Palladio, in his admiration of the picturesque, embraces a system which stops short of the correctness derivable from a reference to the Grecian originals of classic architecture; while the exclusive admirer of those Grecian examples is too often chargeable with the much greater fault of assuming the applicability of the characteristics of the Athenian temple alike to all modern purposes and localities. To meet the deficiencies of both, therefore, it is obviously necessary to unite a comprehensive regard for the beauties of ancient art with an accurate discrimination as to their fitness to modern requirements; to consider the modes of decoration in constant connexion with the principles of utility. To do this, however, constitutes, frequently, one of the greatest difficulties to the thinking mind. The point at which the rule of utility ceases to apply, and the office of pure decoration begins, is by no means easily definable; there being, indeed, for our admission a kind of intermediate principle, that of utility of decoration, if we may so call it; or the conduciveness to the unity of decoration of such members as may be constructively superfluous. The very circumstance that architecture is a decorative science manifestly requires a concession to this middle principle; for it is evident that a strict application of utilitarian maxims to that science would at once divest it of all pretensions to ornamental effect. It, therefore, becomes a matter of very great importance for us to ascertain how far the utilitarian principle is entitled to implicit observance, before we may proceed to act upon the suggestions of decorative fitness, much less upon those of ornamental fancy. This enquiry is, indeed, worthy of much greater attention than our present limits will allow us to bestow upon it, lying, as it does, at the foundation of all significancy in composition. It is one also for which the greatly extended antiquarian researches of later years fitly prepare the way, by allowing us to trace back the advances of architectural science to its most remote development; and to observe, from a commanding point of view, the various modifications which it has undergone, in obedience to the requirements of climate, of national character, and of social habits. Indeed, the circumstances which thus render us conversant with all the varied architectural forms of antiquity the more imperatively require this investigation, since they will only afford the greater inducement to a blind and degrading imitation of those ancient remains, unless we accustom ourselves to submit our impressions to a process of reasoning whose ultimate appeal must be to the principle of utility.

In proceeding to examine some of the bearings of this principle, we consider it quite unnecessary to enlarge upon its general reference, as suggesting a correspondence between the character and the destination of a building, whether palace or prison, temple or warehouse: this expression of fitness is manifestly inseparable from an observance of the maxims of utility. It is to the effect of these maxims upon the application of the detail of composition that we now confine our attention, and this more especially as affecting the employment of that most important feature of classical decoration, the column. This subject is evidently quite distinct from that which engaged our notice on a former occasion, when we endeavoured to show how far the elementary forms of architecture owed their origin to the principle of absolute fitness. Our business is now with the *application* of the column and entablature, and not with the circumstances of their origin, except so far as the latter may furnish deductions tending to establish our positions with respect to the former.

We remark, then, that the primary and most obvious office of the column is the support of a horizontal superstructure for the purposes of shelter. Hence its use in the portico and external peristyle of the Greek temple, and frequently also in its interior. None, therefore, will dispute the significancy and decorative fitness of the column where thus applied, in its first simplicity, to porticoes, colonnades, or interiors, as characteristic of utility and necessary support. In this simplicity of use we premise the employment of unbroken entablatures and regular intercolumniations. But are we to be restricted to this? Is there no significancy or propriety in the use of the column under combinations less primitive and rules less severe? In the internal introduction of arches and vaulting instead of the horizontal superstructure for shelter, are the column and entablature to be necessarily discarded? Certainly not, unless we would sacrifice almost all the beauties of Roman and Italian composition to that ill-supported hypothesis, popularly adopted from Vitruvius, which makes the column and entablature to be mere representations in stone of the props and roof of the primitive wooden hut. For, unimportant as the question of the origin of these members may at first sight appear to be, it is well worthy of our careful notice that the admission of this hypothesis of Vitruvius is fatal to the consistency of expression, in detail, of almost every ancient or modern work of importance. Even the chaste structures of Athens will not be found faultless on this supposition; for the scheme of timber construction can never justify the conjunctive use of a complete internal and external entablature, as in the case of the peristyle and cell of the Parthenon, and many other edifices. On such a supposition our imagination must be constantly haunted with the idea of the repetition of roofs on the inside of buildings, and even about their doors and windows. But reject this notion, and consider the entablature under its most obvious character, and that which we have formerly endeavoured to illustrate and establish, not as representing a wooden roof, but as being and representing honestly a platform of stone, raised for any specific purpose, — primarily, indeed, for that of shelter, — and the whole difficulty thereupon disappears, supposed incongruities vanish, and significancy and fitness are, in many instances, recognised in the place of misapplication and confusion, as we shall have occasion to notice more largely hereafter. This point, then, being admitted, we shall be prepared to see that the use of columns and entablatures does not necessarily render a surmounting arch or vault inappropriate; that, for instance, two parallel lines of columns, with continuous entablatures, may fitly be united by a vaulted covering. But suppose, further, a somewhat similar arrangement to be that of the nave of a modern church, in which, however, the smallness of the regular intercolumniation is a matter of objection, on account of the obstruction caused by numerous columns; and instead, therefore, of continuous entablatures on each side, a succession of arches is made use of from column to column, surmounted by the general vaulted ceiling; at the same time, the decoration of columns or pilasters must be continued round the extremities, east and west, with a regular entablature. We then are under the necessity of employing over each column a square piece of isolated entablature, to preserve a correspondence of lines round the whole interior, a combination of which we find constant examples in the churches of Sir C. Wren, and subsequent architects. This particular arrangement is, by many persons, pronounced to be a great abuse; but with such an opinion we are not prepared to coincide. For the truth is, that the introduction of the arch and vault, in this and similar instances, entirely sets aside the importance of the entablature as the member of support, superseding it in efficiency for all large intercolumniations, and leaving to it only those smaller intervals which may be within the usually admitted limits. On the other hand, to avoid such a discontinuance of the entablature when arches are employed over columns, the only alternative would be to omit it altogether, and to let the arches spring immediately from the capitals. To this, however, there is the greatest ground of objection, inasmuch as the inseparable connexion of the column with its entablature is a point of fundamental importance to the preservation of the identity of classical architecture, to neglect which is to wander at once into those mazes that terminate in the Moorish or in the Norman style: not to notice further the naked and unsatisfactory appearance of a column so employed, as contrasted with the same member under every other application, in colonnades and porticoes; nor yet to insist on the fact, that one of the Roman orders, the Doric, is essentially incomplete without its entablature, the triglyph of which alone gives a denomination to the column. In saying thus much, we wish to show that the supposition of the invariable importance of continuous entablature, which has been derived from the study of Greek works, is not of universal adaptation to that complex system in which the arch obtains so conspicuous a place; there being occasions, in internal arrangement, in which the arch, as the substitute for the entablature over large intercolumniations, greatly exceeds it in value and efficiency, and wherein the latter could not be carried out and applied to the same office without manifest inconsistency, and, indeed, false construction; occasions, therefore, in which the expression of utility requires a broken entablature as subservient to the arch. But, even in these cases, the object for which a continuous entablature would be desirable, viz., the connexion of horizontal lines, is not to be lost sight of; for, in the instance before supposed, of a row of columns and detached entablatures connected by arches, the whole ought to be surmounted by a larger cornice than that of the entablature, previously to its receiving the general vault, as instanced in the clere-stories of some of our churches. A groined ceiling, instead of the arches and vault, would be wanting in character; since this would preclude that connexion by means of a general surrounding cornice. Of course, the license for which we thus plead, in the occasional management of arches, applies principally to the composition of interiors: it cannot, in external design, be extended to the sanction of such an abuse as that of the interruption of a general entablature for the admission of an arch, where there is no superior cornice above to connect the whole, as exemplified in the flanks of the Mansion-House; while, on the other side, it may offer sufficient apology for the practice of using a subordinate order, with discontinued entablature, in such instances as those of Venetian windows, so common in the designs of the Palladian school.

Having so far noticed the twofold employment of columns for the purposes of shelter, on the one hand, by the support of continuous entablatures and horizontal coverings, and, on the other hand, by the support of arches and vaultings, to which the entablature then becomes subordinate; let us for a moment observe some inferior examples of such combinations for the same ostensible object. As one of these, we sometimes see a portico or colonnade made use of, not to protect and designate an entrance, but as a mode of decoration to windows: how far, it may be asked, on the principle of utility, is this justifiable? We reply, that, when such an appendage has sufficient projection and arrangement to render it really available as a place for walking in shelter, it is undoubtedly appropriate, having the uses of a veranda, combined with an architectural character which that class of erections can never possess. When, however, its projection is insufficient for this object, the columns being placed, perhaps, as close as possible to the wall in which the openings occur, the only principle of utility upon which it can be admitted, is that of affording protection to the windows, in the same manner (though to a greater extent) as an ordinary window dressing is professedly made to do. It is only upon the same supposition, indeed, that we can recognise any practical fitness in the use of engaged semi and three-quarter columns. For it must be allowed that the employment of the column in this attached mode is greatly defective in point of significancy, countenanced as it is, nevertheless, not only by the frequent practice of all the greatest modern architects, but by examples from the purest periods of antiquity, as well Greek as Roman.

The application of columns to windows, and the frequent use by modern masters of engaged columns, are matters that often stand associated with another circumstance of practice which demands our notice; viz., the employment of orders upon orders. Nor is this practice to be met with that sweeping condemnation in which some critics delight, since there are many considerations that render it occasionally justifiable. It is true, indeed, that two orders, of which one is placed upon the other, are not in the abstract equally imposing with one order of their united heights; and that such an application as the former constitutes a departure from the example of the best (though not of all) Greek remains. But neither of these circumstances is a sufficient objection, since, in the first place, the column is not in composition to be considered alone, but in connexion with accompanying features, especially in reference to the apertures; and, in the second place, those apertures are with us subjects of much more importance, and deserving of more concession, than they were in the climate and temple architecture of Greece. If, then, in the decoration of a façade of several stories, we would preserve to the windows that prominence of character which the expression of utility imperatively demands, we must limit in proportion the size of the columns with which they are associated, never allowing the height of the latter to include more than two tiers of ordinary apertures, or one tier of such apertures as may be large enough to require a wide intercolumniation. If this limitation be exceeded, the window not only loses its proper character, but is deprived of its internal efficiency, on account of the extreme width of the intermediate piers required by larger columns. This restriction, then, in the height of an order so employed, will render it advisable, for the decoration of the supposed remaining stories, to introduce sometimes a basement, sometimes a second order, and sometimes both together, as in the Banqueting House at Whitehall, and the exterior of St. Paul's. Nor are the character and office of the column and entablature, if rightly considered, at variance with such an application. On the Vitruvian hypothesis of their origin, this practice would, indeed, involve the absurdity of representing as many roofs as there are entablatures, or even cornices, in the height of a front; but, upon the supposition, which we have before advocated, that the entablature expresses simply a platform of stone, there is discerned a manifest significancy, rather than an abuse, in thus marking the division of stories by the use of successive orders. Of course, we do not plead for any such fantastic display as that of piling the five orders one upon another; we wish merely to show, in opposition to the hypercriticism of pseudo-Grecians, that the practice under notice, so frequently resorted to by the followers of the Italian school, is capable of justification; and, further, that those masters acted in the true spirit of art in thus modifying and applying the systems of antiquity to their own altered wants and circumstances.

But, besides the various employment of the column in such cases as those already adverted to, where the obtaining of shelter is the professed object, we have to enumerate some other purposes for which it may be used. Of such purposes, probably, the next in importance is that of the definition of boundary. Thus, wherever a screen or fence wall admits of perforation, we may consider a columnar screen capable of application in its stead, without any opposition from the principle of utility; a consideration which will extend to the decoration of gateways and park entrances. Closely connected with this subject is that of the embellishment of archways, upon the model of the triumphal arches at Rome. Here, too, we contend that the utilitarian principle may justify the employment of the column, though upon another and a third ground; viz., that of presenting support to essentially characteristic parts of the composition. As applied to a triumphal arch, the column would have no significancy as a means of obtaining shelter, or of defining boundary; it has, however, sufficient import and character as a means of support to so essential a feature as statuary. Hence, in the arch of Constantine, we recognise a reason, not only for the use of columns, but even for what would, under other circumstances, be objectionable, an entablature broken round the columns; since the office of each column is specifically the support of its statue; and since, too, the entablature could not, with an expression of propriety, be carried unbroken across such wide intercolumniations as those caused by the arches. But this subject leads us to notice, lastly, the application of columns to structures whose principal end is that of ornamental effect. And here it is obvious, that we are not at liberty to require the application of the principles of utility more strictly to the management of detail, than to the object of the entire composition. This consideration, indeed, might have disposed of objections on the ground of superfluity, in the decoration of the triumphal arch. It is a consideration, also, which will apply with much force to the composition of steeples; objects in which, after all allowance for the demands of a belfry, the chief purpose desired is that of designation to the eye. Here, then, it is idle to look for any further recognition of utility in the use of columns than that which relates to fitness of effect, subject always to the expression of constructive practicability. Members, elsewhere superfluous, are here appropriate, if they promote a characteristic tendency of lines, and a progressive lightness of ornament. Here, also, the preservation of unbroken entablatures is not to be enforced, since the effect to be attained is directly the reverse of that which is appropriate to elevations of the ordinary lengthened form, whose prevailing lines are horizontal, and wherein, therefore, the entablature must be continuous and uninterrupted by needless angles. On the other hand, it is the object, in steeple composition, to counteract that predominance of horizontal lines so incident to the classical styles of architecture, and to substitute for it a vertical and aspiring tendency of form; which, of course, can only be preserved by multiplying the perpendicular and breaking the necessary horizontal members, so as to lead the eye imperceptibly upwards from story to story. A due consideration of this object may also lead us to view with indulgence the numerous breaks of entablature so common in the Palladian school of design, when they are found to occur in elevations of more stories of orders than one, and in which the height may be unusually great in proportion to the length of frontage.

The preceding observations, it is hoped, will comprehend a notice of the leading principles upon which the column may be employed consistently with utility. There are, however, many inferior modes of its application to which we might advert, but that their discussion would greatly exceed our present purpose. What has been already advanced, briefly as we have been compelled to allude to several developements of the subject, will not be without a beneficial effect if it tend to illustrate those principles by which our old masters have produced their happiest compositions, and if it lead to the observance of the following considerations: — that our reasonings upon architectural fitness are not to proceed upon the supposition of the universal and exclusive applicability of rules derived from the limited resources of Greece; that such rules especially demand modification as they stand affected by the introduction of the arch, the practical tendency of which is to supersede the entablature; that the maintenance of a doubtful and (as we believe) inconsistent theory, with reference to the origin of the column and entablature, deserves to be discontinued, as calculated to destroy the vigour of design, by leaving it in constant exposure to all kinds of supposedly false expression; and, lastly, that true architectural significancy and character can be obtained, not by copying the antique, but alone by liberally accommodating its formulary to our own wants, under the full impression that the degree of decoration bestowed upon any feature must be apportioned to its utility; a principle equally though variously developed in the colonnaded temple of the south, and the gorgeously illumined cathedral of the north.

ART. II. *Forsyth's Architectural Opinions.* By VERUS.

IN our observations, p. 243., we pointed out the discrepancy between the reasoning and the conclusions of Candidus on Forsyth's architectural opinions; we asked what grand principle, what practical doctrine, he was desirous of inculcating; and we showed that, with a very evident wish to demolish, he had really helped to establish an authority. To this we may add, that, if his destructive ability had been equal to his intentions, he would, like other pseudo-critics, have been contented to destroy, without attempting to raise up any thing in place of what he had taken pains to overturn. We need not go far to seek the origin of all this sophistry. We apprehend the absence of any *certain* principles of the art in the mind of Candidus is a sufficient explanation of the fact.

It will be generally allowed, that no one, who acknowledges no settled principles on science, is entitled to appear in the light of a preceptor. This position, however certain, is often overlooked: but we beg the reader to bear it in mind, for it is important towards the illustration of our point. In the following brief examination of one or two of his arguments, we propose to subject him to the *test of principle*. The perusal of Candidus's paper (p. 148.) seems intended to leave his readers with the impression on their minds that no piece of architecture in Venice is worthier of admiration than the doge's palace. The Procurative, the Biblioteca, or any other building of or since the age of Palladio, cannot, according to his doctrine, pretend to any beauty, because Sansovino, Scamozzi, Longhena, &c., are all more or less of the Palladian school, which is, indeed, merely the Italian school purged of its greatest vices; and all these are confessedly inferior to him in the same line. In the first place, it will be admitted by all, that an elevation worthy to be cited as a piece of architecture should at least exhibit the characteristics of the style in which it is built. To what style, then, we ask, does the palace in question belong? Why, to the Gothic; and the Gothic of the 14th century, the period of its highest perfection in all countries where it prevailed. We expect, then, if we are invited to admire its architecture, a full developement of the pointed style of building; exhibiting high pointed arches, and, in the words of Mr. Willis, "pinnacles, buttresses, tracery, and clustered columns; rib vaulting and lofty towers; the bare enumeration of which is considered to be a sufficient definition of Gothic." (See Willis's *Essay on the Architecture of the Middle Ages.*) Something of this we may reasonably expect to find, and something of that system of light and aspiring forms, which is the leading principle of Gothic composition. Now, observe the ducal palace; the character is, on the contrary, that of a low massive square pile; the windows, which should be large, lofty, and filled with tracery, are broad short apertures, few and far between, and undivided by any mullion-work. The piers between the windows, which in fine Gothic examples are adorned with buttresses and tabernacles, are here bald, bare, and heavy. Instead of the clustered pier, we observe in the lower arcades short stout cylindrical columns of Norman heaviness, not of Gothic elegance, and ill according with the pointed arches, which spring from their foliated capitals. Lastly, the sky line, instead of bristling with pinnacles and points, takes an uninterrupted horizontal direction; and the cornice bears a parapet of a mongrel, and of the poorest, character. On what, then, we repeat, does Candidus (architecturally speaking) rest his admiration of this building? Is not Forsyth more correct than his commentator, who appears not to perceive any thing inharmonious in this struggle between two opposite principles, producing a composition that is neither Greek nor Gothic? If it is only the piebald face and glitter of gay marbles, and historical interest, which has charmed his mind, and warped his judgment, we do not wish to disenchant him; we leave him in possession of the adventitious and imaginary, but he must concede the abstract and real beauty. And if he would have his opinions respected, he must not assume *other* grounds when he criticises *other* styles of building. If he abandons the test of the *principles of the art* in one case, he must not resume them in another. We must not be understood to deny the existence of a certain degree of merit in the edifice under discussion; but we say of this in particular, what Mr. Willis says of a class of Italian buildings in general, "Although it wants the repose of the Grecian, and the lofty upward tendency and pyramidal majesty of the Gothic, it is yet replete with many an interesting and valuable architectural lesson; . . . but it has missed the decided character of the two great schools of architecture." There are, besides, parts worthy of fixing our attention, which Candidus seems to have overlooked; for instance, the sculpture of the foliage and imagery of the capitals of the columns is very far superior indeed to any contemporary work on this side the Alps. But what we hinted in our former observations, namely, the many interesting recollections we are wont to associate with the appearance of the ducal palace of Venice, is the principal cause, and furnishes us with an easy explication of the cause of its general attraction. We shall briefly illustrate this position; viz., how the mind of the spectator is apt to be influenced by accidental circumstances in determining the value of an object of art, more than he is by a fair consideration of its abstract merit. It is a rare thing, for example, to find any one so dead to poetry and romance, as not to take a sort of mournful interest in the contemplation of the Bridge of Sighs, and the adjoining prisons. There are few, again, so dull or matter-of-fact, that their sensibility is not quickened on the first view of the Rialto, by the connexion its name bears with the writings of Shakspeare, Otway, and Byron. Whether the draughtsman is or is not aware of the reason, it is mainly owing to this secret indefinite charm, that all artists have, as if by common consent, delineated the forms of these structures, as well as that of the doge's palace. But there is another fabric in the same city almost as familiar to the untravelled, as to the traveller; it is the Church of S. Maria della Salute. We cannot account for the frequent pictorial representations of this on the same grounds as those just adduced, but we easily find the explanation of the fact in its happy site, and in the uncommonly picturesque outline it presents to the eye from almost every point of view. If, then, the assertion be correct, that mere picturesqueness is proof of merit of design, this church is surely a model of symmetry and taste. But is it so really? On the contrary, it is in spite of *extraordinary* defects that the composition is so very attractive to a painter. In what style, however, is it built? The readers of Candidus's observations will be surprised to hear that it is of the reprobate school of Palladio, and, moreover, that it combines in itself more than all the faults of taste and practice which Candidus has culled from all the scattered works of that artist! Forasmuch as he condemns the one, far more is he bound in common consistency to denounce the other. This, however, he cannot pretend to do; because he has asserted that the doge's palace must needs be a fine piece of architecture, since it has great attractions in the eyes of painters; and for the same reason, it follows, that the edifices just named are all admirable, and especially S. M. della Salute, since it alone has perhaps more employed the pencil of artists than any other building in all Venice, from the days of Canaletti, Guardi, and Marieschi, to those of Bonington, Prout, and Harding. It is, therefore, beautiful; and it is nevertheless redundant in the vice of the system which he has unhesitatingly declared to be altogether worthless, it is consequently contemptible: and in this predicament we leave Candidus, as far as regards this section of his argument. Thus it is that gentlemen, misled by a determination to make every thing suit their theory, may become such fallacious reasoners, that they unwittingly establish a worse sample of the very style which they repudiate, as a fit object of admiration and imitation.

We might here conclude our strictures; but some further observations of Forsyth's reviewer (p. 202.) are so singularly ingenuous and futile, that we ought not to refrain from noticing them. If his former argumentation was of a nature to be fatal to the cause which it undertook to sustain, the present, we humbly opine, cannot possibly mislead the judgment of the least reflecting mind. Shall we, for example, call the following a convincing argument? — "I have heard an individual, a tasteful and enthusiastically studious architect, express himself in regard to Palladio, in terms little short of execration." We need not doubt the taste of this nameless authority. So have we heard otherwise very sensible persons express themselves, in regard to Thom's statues of Tam O'Shanter and Souter Johnnie, in terms of admiration far greater than they bestowed on those of Phidias; and have heard them dwell with delight on the night-cap and worsted stockings of the Scotch boors, though they could not admire the form of Theseus, or that of the river god Ilissus. Very wise persons, again, may, and often do, express themselves enthusiastically on the merits of the marble effigy of Lord Dudley's spotted dog, Bashaw; and the same might be perfectly unmoved on beholding Giovanni Bologna's Mercury, or M. Angelo's Lorenzo de' Medici. And what does all this prove? That the figures of the Scotch peasants, and the Newfoundland dog, are of an order of art higher than those of the heroes and gods sculptured by Phidias, and the two Italians just named? Certainly not. It merely demonstrates the fact, that such opinionists are deficient in a just apprehension of what, and in what, consists the excellency of design. In like manner, the expressed opinion, that the elevations of the doge's palace are of an architecture more orderly, correct, and abstractedly beautiful, than the arcades of the court of the Carità at Venice, the fronts of the Farnese Palace at Rome, or the P. Pompei at Verona, is no more worthy of acceptance than the taste of Voltaire's toad, whose perfection of beauty was a freckled back and a pair of goggle eyes.

Though we have given insertion to this article as an original communication, in consequence of its being a continuation of one in a former No., any further controversy between Candidus and Verus, on the subject of Palladio, must be confined to the department of Retrospective Criticism. — *Cond.*

REVIEWS.

ART. I. *Remarks on the Architecture of the Middle Ages, especially of Italy.* By R. Willis, M.A. F.R.S. &c. &c.

THE general design of this work has been already stated in the brief extracts from its preface, which appeared in our Number for May. We proceed to fulfil the intention we then expressed, of bestowing a more detailed notice on its contents; which, while they are calculated to illustrate the history of architecture by examples produced, and classifications suggested, tend also to the more important object of practical improvement, by leading conspicuously forward most of those principles from which the structures of the middle ages derive their essential characteristics. Considerable thanks, indeed, are due to Mr. Willis, for having brought so much patience to the investigation of a provincial mode of architecture, confessedly the least interesting, on the score of beauty, of all the contemporary European systems; for, as he himself allows, "Gothic architecture cannot be said to have flourished in Italy at any time, or to have produced there specimens of beauty and grandeur at all comparable with those which arose under its influence on our own side of the Alps." We quite agree with him, however, in considering that this constitutes no reason why an examination of Italian Gothic should be neglected; and, in believing that, where principles are to be elicited only from the study of examples, "the greater the number of examples that can be compared the better; that we are by no means to confine ourselves to the most excellent, for we may often detect the rules of successful practice by comparing the attempts of unskilful artists, or the experiments of experienced ones, with those specimens in which the desired effect has been obtained in the highest degree. In this point of view the edifices of Italy possess a peculiar interest, as they appear to have been the result of a continual struggle between two principles, carried on by artists of high ability." (p. 2.)

In his introductory chapter (from which we have just quoted) Mr. Willis proceeds to touch upon the general character of the Italian Gothic, as deriving its peculiarities from the studies of artists of original thought, seeking to unite the principles of the pointed style with those obtained from the classical remains of antiquity on all sides present to their notice. That such an attempt, however, should be attended with failure is in no respect matter of surprise; and thus "the curious result is a style in which the horizontal and vertical lines equally predominate, and which wants alike the lateral extension and repose of the Grecian, and the lofty upward tendency and pyramidal majesty of the Gothic." The sequel introduces us to examples which sufficiently expose the futility of any attempt to form a system pretending to decision of character, by endeavouring to equalise the operation of the horizontal and vertical tendencies of line. After some judicious remarks upon the progress of architectural systems, the indication in many specimens of successive transitions from one stage of cultivation to another, and the discrimination requisite to be applied to other examples which, probably, exhibit the imitation of foreign novelties rather than the regular transitions of an individual style, the author proceeds, in his second chapter, to advance some important observations on the distinctive characteristics of mechanical and decorative construction; the former as referring to the actual, and the latter to the apparent, mode of the support of the weights of a structure. The developement of these distinctions in the style of the classical and in that of the middle ages, may be understood from his own words: — "In Egypt and in Greece we behold the actual stones, of which the building is composed, ornamented with mouldings, and so decorated as to display their connection, while the whole style of architecture is accommodated to the principle of horizontal weights resting on perpendicular props. In this case the decorative construction of the building is identical with its mechanical construction." When, however, the arch becomes introduced, " the diagonal strains which it produces must be provided for; and, as the decorative system of the Greeks was founded upon a mechanical structure that only exerted perpendicular pressures, it is clear that the diagonal ones must be concealed by huge rectangular masses, decorated so as to appear as if sustaining vertical pressures only, unless we choose to invent new decorative forms for the diagonal props. The Romans attempted concealment, and hence introduced discordance between the decoration and the mechanism of the structure. The Gothic builders, in later times, more wisely adapted their decoration to the exact direction of the resisting forces required by the vaulted structure;" for, eventually, when, in the districts remote from Rome, " the ravages of the barbarians had swept away the ancient rules altogether, and left only the shattered examples, we find that, after they had settled themselves in their conquests, their builders, working as unschooled imitators, copied the construction of these ruins, and employed their materials, using the fragments of decoration, but naturally placing them so as to be entirely subservient to the actual construction of the building." Hence the formation of the Romanesque, Lombard, Norman, Saracenic, and like styles; and from these, ultimately, after a long process of improvement, during which the arch and vault rose to the supreme place in importance and the government of expression, issues the complete Gothic. " This style is remarkable for the skill with which all the ornamental parts are made to enter into the apparent construction. Every member, nay, almost every moulding, is a sustainer of weight; and it is by this multiplicity of props assisting each other, and the consequent subdivision of weight, that the eye becomes satisfied of the stability of the building, notwithstanding their slender proportions. Add to this, that the greatest pains are bestowed in giving apparent lightness to the weight sustained; while in the mechanical construction, no less practical knowledge is displayed in proportioning props to pressures. To appreciate this it is only necessary to compare the Roman vaulted halls with the Gothic cathedrals." (p. 21.)

Passing over the remainder of this interesting subject, we find the author, in the succeeding chapters, discoursing upon the leading members of Gothic composition, one by one, with an especial reference to their treatment in Italian buildings. Much of the detail of pointed architecture he derives from the use of the compound (or, as we should more familiarly express it, with reference to our Anglo-Norman remains, the receding) arch; and to the attendants of, and the derivatives from, the arch, he directs his first attention. Of these attendants we find placed first in order the impost, which term the author uses to signify the decorative forms received by an arch at its springing, under any circumstances of horizontal or vertical extension, and not as restricted to the signification commonly adopted in Palladian architecture. Columnar shafts, and the arches which they sustain, come next under notice. The compound arch is analysed by a subdivision into successive orders or receding planes of decoration, or groups of moulding, proceeding from the face or outward arch, to the inward; and the shafts used to carry such an arch are classified, with relation to their situation below it, whether as forming sole piers as " bearing shafts," or as applied to piers in front as " face-shafts;" on the sides as " sub-shafts;" and intermediately, to projecting or receding angles, as " edge-shafts " and nook-shafts." We are ready to admit the efficiency of such a classification as applied to the simple combinations of Italian Gothic, as well as to those of other European systems, as far, probably, as the middle of the 13th century: we apprehend, however, that it would be impossible to carry it successfully to the elaborate compositions of the fifteenth; in which, besides the complexity of the arch-mouldings, there are often between the face and sub-shafts a forest of other stems, columnar beads, and based bead and ogee mouldings blending into hollows, &c. The next chapter treats upon the subject of foliation, which mode of ornamenting arches by the subdivision into, or application of, minor segmental forms (whence the cuspidated figures of the after age), appears to have been quite coeval with the adoption of the pointed arch: to both of these important features Mr. Willis is disposed to attribute a Saracenic origin. He then proceeds to the consideration of tracery, a feature of subsequent invention, the introduction of which he refers, with much appearance of justice, to the varied forms assumed by the compound arch, when the outer order was made to circumscribe more apertures than one. Next in place occurs the subject of vaulting, as transmitted from the later Roman to the middle age architecture. Here the author successfully demonstrates the futility of that still-pleasing theory which would derive the introduction of the pointed arch from the exigencies of vaulting; for his argument, however, we must refer our readers to the work itself, as well as for his classification of the forms of vaulting, and his notice of vaulting ribs, piers, and intermediate arches, triforia, and clere-stories. A chapter on doorways concludes the discussion of detailed members; and this is followed by another on the subjects of the proportions and general plan of Italian Gothic edifices, their exterior decoration, and the composition of towers. To this succeeds a concluding summary of inferences and observations with regard to the history and peculiarities of the various progressive styles of the middle ages, together with a comparison of some of their leading characteristics with parallel points in classical architecture. We are further presented with a " List of the principal Buildings of the Middle Ages in Italy," accompanied with a number of valuable memoranda as to their distinctive features, date, architects, and founders. A notice of the " Dimensions of the principal Italian Campaniles," a list of published works illustrative of the subject immediately under discussion, and a description of the plates, with the plates themselves, fifteen in number, conclude the work; a work evidently the result of much careful observation, and particularly deserving the attention of all who are interested in the history of pointed architecture. — *E.*

ART. II. *Athenian or Grecian Villas: being a Series of original Designs for Villas or Country Residences; to exemplify in Effect its applicability to domestic Edifices of this Country, and its Adaptation in Plan to the modern Arrangement of their usual Apartments.* By Edward Jones, Architect.

THE author adopts, as the motto, the following passage from Col. Leake, " It is particularly in architecture we need the guidance of the Greeks. The more we examine the buildings of the ancients, the stronger do the proofs appear of that profound study which they bestowed upon this most useful and ornamental [? branch] of art." This may be true, with reference to the architecture of temples, but it can hardly be applied in any very intelligible way to the architecture of villas, since we know nothing of those of the Greeks; nor, if we did, could that knowledge be of much use to us, in consequence of the different state of civilisation in which we now find ourselves. Grecian architecture appears to us better adapted for villas than any other kind of architecture, simply because buildings in this style contain a smaller number of curved lines and oblique angles than buildings in any other style; and, consequently, all other circumstances being equal, a greater quantity of accommodation can be obtained for a given amount of expense. No other architecture is so simple as the Grecian; which, with the exception of its ornaments, is wholly composed of perpendicular lines and horizontal lines; it is probable, therefore, that it will always be, as it is at present, the prevailing style, both for public and private buildings; but where a superior degree of richness, variety, and beauty is an object, the Roman style will be preferred, because it contains a new element, and one of great beauty in itself, the arch. Notwithstanding all that can be said in favour of Grecian architecture, it is, from its constituent elements, necessarily inferior in its resources to both the Roman and the Gothic manners of building, for all purposes whatever, even for temples. It is true, it may be objected to this assertion, that no temple has yet been erected in Roman architecture as perfect in its kind as the temples of the Greeks; but that only shows the greater difficulties attending the Roman style, from the additional element, the arch, which enters into its composition. However much the simplicity of what is called pure Grecian architecture may be admired, reason requires that we should assign it a lower place in the scale of art, than the Roman architecture; simply, because, of two compositions, that into which the greater number of elements enters, must necessarily require the greater exertion of mind to design and execute, and must necessarily be capable of producing the greater beauty.

We make these observations to show that we have no hopes of much being gained by the application of pure Grecian architecture to villas. It is proper, however, that we should permit the author of the work before us to speak for himself, seeing that his opinion seems to be the very opposite of ours.

" When there is scarcely a vestige of many of the temples, stadia, theatres, and odea, which once adorned the country of Greece,— and, perhaps, equalled in design the Parthenon, Erectheion, and Apollo Epicurius,—no very extensive remains could reasonably be expected of the elegant villas, and other buildings of less durable construction; but the desire arising upon this subject, so valuable and interesting, is gratified with an ample knowledge of the designs of Grecian villas, by the fortunate discovery of several bas-reliefs, which exhibit, in a beautiful manner, this style of building; and by the pleasing description of palaces and villas given in the earliest authors. The villas and minor buildings of the Athenians no doubt partook of the same purity of style and elegance in design with their public edifices; for the same feeling for honour and reputation, which animated Ictinus to the accomplishment of his distinguished designs of the Parthenon at Athens, and Apollo Epicurius at Phigalia, would also direct him and other eminent architects in buildings of less magnitude and costliness, though of equal importance to their fame in architecture. The ambition of display of decorations in the private dwellings of the Athenians even excited the wit of Aristophanes, who says, ' Your houses shall be as temples, the roofs shall be triangular, and represent a spread eagle.' " (Preface, p. 6.)

" Having thus ventured to advert to a few of the causes which influenced and directed the Athenians in their acquirement of knowledge in architecture, and which led to their merited preeminence in the arts; it, perhaps, may not be irrelevant to mention, in concluding these few remarks, that the beautifully enriched landscape and picturesque scenery of the British Islands, the chasteness, simplicity, and grandeur of Grecian architecture, and the varied elegances peculiar to this classic style, assimilating with the refinements of the present age, present the strongest inducement for its adaptation to the villas and private residences of this country. Edifices designed in this style of architecture are capable of producing the most pictorial effect, and are uniformly consonant with all the refinements of cultivated art. The admirers and patrons of the laudable and industrious efforts of the human intellect, either in sculpture or painting, would have the most ample opportunity afforded them for the display of their taste in combining chasteness of style in architecture with the richness of effect in sculpture; for statues, vases, bronzes, and other works of art were invariably the adjuncts of the tasteful and elegant buildings of the Greeks." (Preface, p. 8.)

The object of a design, the author states, " being to display, in the most perspicuous manner, the effect of the building when erected," he has had those in his work engraved on a large scale and in perspective, so as to exhibit, as much as possible, the two principal fronts of the edifice. He has, consequently, given neither elevations nor sections; and we may add that his ground plans are on a very small scale, so small, indeed, as to be altogether disproportionate to the perspective views. It is with much regret that we find we cannot speak so favourably of these designs as we could wish; and, therefore, we shall not say much. Through all the three perspective views there is a want of unity of system, which only requires to be mentioned, to be understood by every reader who has perused, with ordinary attention, our article on that subject in page 1. The defect in unity most conspicuous in these perspective views is, that in some parts the system of employing pilasters or columns to support the walls is adopted, and in some other places the walls are left plain. This seems to us to indicate that the artist has proceeded entirely on his feeling or idea of effect, without consulting his reason. For example, in Design I., the portico supported by columns is placed against a wall of masonry, on which the sizes of the stones are marked! This is the sin of almost every portico of the street houses of London, as we have elsewhere pointed out. In Design II. some parts of the lower story display a system of pilasters, and others are without them; but on the second story there is a portico placed against a front of plain stonework. Design III. has the same sort of fault, and exhibits a boundary parapet, or peribola fence, containing open compartments filled in with an ornament, consisting of a large flower joined to the piers, sill, and lintel by the points of its petals, and conveying ideas the very opposite of architectural. The ground plans of these buildings, the author informs us, " are the simplest possible." We acknowledge them to be so; they remind us of the dreary houses of the Russian nobility in Petersburg and Moscow, in which one naked parallelogram or right-angled room opens into another, throughout, and where a bow window, a curvilinear plan, or a coved ceiling, is never met with. Will any one assert that such meagre apartments, purely Grecian as they are considered, are at all to be compared with those where a variety with curvilinear surfaces are introduced? The landscape, which has been joined to the perspective views, is in excessively bad taste; and some of the trees are most preposterous objects. To prove the incongruity of the landscape, we shall just mention that in one view roses and hollyhocks are shown in the rough ground exterior to the peribola; and that, in another, some beautifully exotic forms are shown outside the peribola, and common-looking bushes within.

We repeat that it gives us pain to make these remarks, but we can assure Mr. Jones that we could not avoid doing so consistently with our ideas of our duty. If he thinks we have done him the slightest injustice, or if he wishes to explain any point, we shall, in this, as in every similar case, be most happy to publish his reply or defence. If, on the other hand, he is a right-minded person, this review may lead him to examine himself, and ultimately be of the greatest use to him.

ART. III. *Cottage Architecture; being a Supplement to the First Series of Goodwin's Rural Architecture, lately published. The Supplement contains Designs of Peasants' Cottages, both Plain and Ornamental, separate and in Groups, Gate Lodges, small Dairy Farm Houses, &c.; with Specifications and Estimates of each Design. The whole planned and carefully revised in Aid of the improving State of Rural Economy.* By Francis Goodwin, Architect. 4to. London, 1835. Also a Supplement to the Second Series, bound in the same Volume, which contains 15 Plates, and 5 Pages of Letterpress.

MOST of these designs are good, and there are two specifications. Design I., a peasant's cottage, has shields on the chimney top and a coat of arms over the door, we suppose to indicate to whom the cottage belongs. We cannot consider this in good taste. The ground floor of this cottage consists

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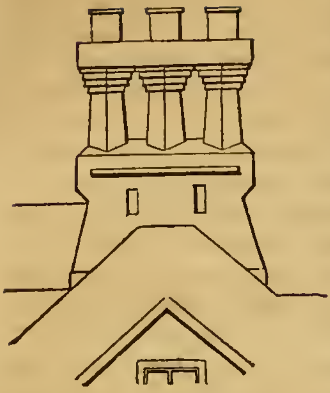

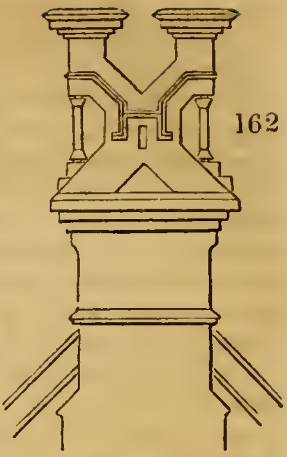

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of two rooms, each of which has three doors and seven windows; the whole, of course, for effect. We hope, for the sake of the occupants, that the casements fit tightly. The two bed-rooms have two separate staircases, and only one window each. Design II., a cottage intended as a small farm house, has a stack of chimneys (*fig.* 161.) which cannot be considered as composed of harmonious forms and lines. Design III., an ornamental peasant's cottage, contains a chimney shaft (*fig.* 162.) which amused us by its novelty. Design IV., isometrical view of eight peasant's cottages. Design V. is for a country inn, and seems very well arranged; the elevation is also good; but it has one unpardonable fault, viz., two trunks of trees as columns for the entrance porch. The incongruity of this mode of building we have before pointed out. (See Vol. I. p. 143.)

A specification is given to Design I., which we regret to be obliged to say is very imperfectly expressed, as such documents generally are.

A supplement to the second part of Goodwin's *Rural Architecture* is bound up in the same volume. Design I. is a cottage dedicated to the Hon. E. J. Littleton, Esq., M.P. (now Lord Hatherton). It displays a good deal of contrivance within, and, in consequence of the four corners of the parallelogram ground plan being cut off, and the roof being supported by four octagon columns, displays a good deal of variety when viewed at different angles. Design II. is an ornamental cottage or gate lodge to a park. The general effect is good, though the mixture of Gothic battlements and high gables will not bear strict criticism in a historical point of view, or even viewing them with a reference only to the harmony of forms and lines. Design III., a cottage or dairy farm house, is good. Design IV., seven peasant's cottages. Six of these are very comfortless dwellings, consisting of only one sitting-room, 10 ft. by 12 ft., and one bed-room, 10 ft. by 6 ft., on the ground floor. Four of these cottages have porches for the sake of effect, and three others are without them for the same reason. This is bad; so much so, in our opinion, that we dare hardly trust ourselves with an offhand expression to designate it. Sound reason requires that comfort should be studied first, and that ornament or effect should always be subordinate. The ornaments, indeed, of any building should always arise out of its uses, or out of its mode of construction; but here, on the contrary, the mode of construction is made to give way to the mode of ornamenting, which is as contrary to common sense as it is to architectural fitness. A specification to Design I. completes this second part. The last design in Part IV. is by far the worst in the book, and the design for a country inn, in Part I., is much the best. All the plates are well engraved, and the trees are somewhat better than they are in the work to which this volume is a supplement.

Nothing is said, in these *Supplements*, of "a novel and perfectly satisfactory mode of ascertaining the cost of any building," which Mr. Goodwin, in his second volume, promised to give in his third. (See our Vol. I. p. 135.)

ART. IV. *Gothic Ornaments illustrative of Prior Birde's Oratory, in the Abbey Church, Bath.* By Edward Davis, Architect.

WE noticed No. III. of this work in Vol. I. p. 370. The present number contains a plan of the oratory, showing its beautiful groined ceiling; small spandrils selected from the lower compartments of the windows; angular termination to the fan groining; boss and compartment from centre of ceiling; compartments and ceiling, with the initials of the founder, the initial in the one compartment being a plant with its leaves forming a W., and the other a bird perched on a branch, according to the quaint practice of the time. These are all beautifully engraved.

ART. V. *Engravings.*

SOUTH-EAST View of Norwich Castle in 1834. Drawn on Stone by J. N. Hakewill, Architect, and published by the Author. This is a very beautiful engraving of a building of great antiquity.

Elevation and Ground Plan of the newly erected Custom-House at New York. Designed by Ithiel Town, and Alexander Jackson Davis, Architects. From the Lithographic Press of Stoddart and Currier. We are sorry not to be able to speak in terms of commendation of this design. As, however, we shall have to treat of it at length, when we give drawings and a description of the improvements made in the building by our correspondent, Mr. Ross, formerly an architect at Bristol, but now settled in New York, we will only observe that the lithography is very good as far as regards the lines, which are clear and distinct, without any muddiness. The drawing is out of perspective, but this is probably the fault of the designers of the building.

Stonehenge. Drawn from Nature, on Stone, by J. Brown, Amesbury. A well executed, and, as far as our memory serves us, correct view of this well known and stupendous monument.

ART. VI. *Colman's Normandy, Picardy, &c. &c., containing Views of some of the most picturesque Exteriors and Interiors of Cathedrals, Churches, and other Objects in Northern France,* sketched from Nature and drawn on Stone by himself. No. I. Imperial 4to. London, 1835. Plain, *5s. 6d.*; India Proofs, *7s. 6d.*

"UPON returning from a recent tour in Normandy, Picardy, and other parts of France, the author of the present publication was advised by his professional friends to publish, from sketches taken on the spot, a series of views illustrative of that extensive portion of our ancient dominions; interesting both from the variety and venerable antiquity that distinguish its cathedrals and churches, which, with the picturesque effect discernible in almost every street, form subjects that, to the eye of the amateur, are full of pleasing associations.

"It has been suggested that, in order to render this work more acceptable to the public at large, it would be advisable to present a descriptive account of each plate; and, in its compiling, it will be the author's anxious endeavour to point out all those objects, which, during a tour embracing a distance of upwards of six hundred and fifty miles, more particularly attracted his attention: to this he purposes adding such information as will be likely to interest those who have visited this extremely romantic country, or be useful to any who intend thither to direct their steps.

"The work will be completed in four parts, containing sixteen plates and four vignettes; and to render it more worthy of the great patronage it has already received, he has employed printers of the first eminence."

The work is most beautifully got up. No. 1. contains a view of that singular object, Mount St. Michael; the general view of Rouen from Mount St. Catherine; Notre Dame, a ruin; La Grosse Horloge, a ruin; and the interior of Chartres Cathedral, in the city of that name, on the river Eure, in Orleans.

Art. VII. *The Cabinetmaker's Sketch Book of plain and useful Designs.* By T. King. 4to, Part I. London. 4*s*. 6*d*.

No year is printed on the titlepage or wrapper of this work, which does not look well, since it might be interpreted into an intention of making it always appear to be new; however, this is probably, in the present instance, an accidental omission. Part I. contains 18 designs for chairs, lithographed on six plates; twelve of these are drawingroom chairs, three are for bedrooms, and three are for hall chairs. It is stated, on the wrapper, that parts II., III., and IV. "will be confined entirely to chair and sofa work, and the parts following to cabinetwork generally." The work is good and cheap, and we wish it every success.

Art. VIII. *An Account of the Mining Districts of Alston Moor, Weardale, and Teesdale, in Cumberland and Durham; comprising Descriptive Sketches of the Scenery, Antiquities, Geology, and Mining Operations in the upper Dales of the Rivers Tyne, Wear, and Tees.* By T. Sopwith, Land and Mine Surveyor. Small 8vo. Alnwick, 1833. 4*s*. 6*d*.

To all who are desirous of having some practical knowledge of geology and mining, and who can spare a month to walk over Alston Moor and the other districts, we most strongly recommend this little work as a companion. We do not know any manner in which a young architect, engineer, or land surveyor, could spend a month's holidays with more advantage either to his mind or to his health, than in traversing such a district; and if our plan of walking were adopted, the whole expense need not exceed five pounds, exclusive of the cost of going by sea, or outside the coach, to Newcastle on Tyne.

"The lead mining districts of the north of England comprise an extensive range of highly picturesque scenery, which is rendered still more interesting by numerous objects which claim the attention of the antiquary, the geologist, and the mineralogist, and, in short, of all who delight in the combined attractions of nature, science, and art. Of these districts no detailed account has been given to the public; and a familiar description of the northern lead mines, in which so many persons in this part of the kingdom are concerned, has long been a desideratum in local literature. The present volume aspires not to the merit of supplying this want; but, by descriptive notices of the principal objects of attraction, it is intended to convey some general ideas of the nature of the lead-mining districts, and to afford some information which may serve as a guide to those who visit them." (Preface.)

Art. IX. *Expositions and Illustrations, interesting to all those concerned in Steam Power, whether as applied to Railroads, common Roads, or to Sea and Inland Navigation.* By Francis Maceroni, late Aide-de-Camp to Joachim Murat, King of Naples; Officer (Knight) of the Legion of Honour; and of the Order of St. George of the Two Sicilies. &c. &c. Pamphlet, 8vo, 126 pages, with several Woodcuts. London, 1835.

Colonel Maceroni is a man of extraordinary powers of mind, and of diversified experience as a military man and a diplomatist. Of the merits of his steam carriage described in this pamphlet, as compared with those of others, we are not able to judge; nor do we consider ourselves bound to enter into a detail of its merits, seeing that there are the *Mechanic's Magazine*, and Gordon's *Journal of Engineering*, expressly devoted to such subjects.

Art. X. *Rules of the Artists' Conversazione of Newcastle upon Tyne, established April 20. 1831.* Pamphlet, 8vo. Newcastle, 1831.

The members of this Society meet one evening in each month, for the purpose of inspecting works of art to be produced by each member; and for conversing on subjects connected with the fine arts. Each member has the privilege of introducing one visitor. Such an institution is well calculated both to improve professional artists and amateurs, and to spread a taste for art among their friends and, consequently, among society generally. We could wish to hear of such conversaziones being established in every town.

Art. XI. *Address and Regulations of the Institute of British Architects, explanatory of their Views and Objects, with a List of the Members, and of the Contributors to the Collection, Library, &c.* 12mo. London, 1835.

We congratulate the architects of Britain on the establishment of this institution, which we ardently desire may be liberally supported. The following extracts from the address will show the objects contemplated: —

"An association of this nature must be obviously advantageous to the country at large, from its responsibility to public opinion for the direction and maintenance of the national character for taste, and from its affording a body to whom individuals may have recourse for its opinion upon professional matters. But no less beneficial must it be to the general body of the profession, from a determination to uphold, by their united exertions, the character and respectability of its professors.

"With a view to the promotion of such important objects, the founders of the Institute of British Architects have united. A few of the advantages they contemplate, and the utility that may be expected to result from their association will, therefore, be here briefly stated, and though briefly, yet it is hoped sufficiently to insure the patronage and cooperation of the enlightened lovers of the art among the ranks of the nobility and gentry of these realms.

"The members of the Institute will be either professional or honorary. The former will be divided into two classes, fellows and associates. The honorary members will consist of noblemen and gentlemen, donors to the amount of no less than twenty-five guineas in one sum; and of foreign architects, or men of distinguished scientific attainments, whether in this or any other country, without contribution.

"The formation of a library of printed works of every species connected with architecture is, of course, of primary importance. To this, it is hoped, may be added manuscripts of a similar description, to be deposited for the inspection of all the members, and drawings illustrative practically and theoretically of the art, in its widest application.

"Another object of the Society will be the publication, at stated periods, of such communications as may be curious and interesting to the public and to the profession.

"The Institute is now forming a museum of antiquities, models, casts, specimens of materials used in building, and of all such other objects as may tend to the illustration of the arts and sciences in their application to design and construction; and have it in contemplation to provide means for performing experiments on the nature and property of materials, as respects their useful employment in construction.

"It is presumed that, independently of the manifest advantages that must result from the periodical meetings of the members of such a Society, great and lasting benefits may be justly expected from the spirit of laudable rivalry and inquiry induced and diffused amongst them; and from the mutual good understanding between its members, promoted by their frequent meetings; to which may be added, the knowledge circulated by their intercourse, and the discussions consequent on a correspondence proposed throughout Europe, relative to any great works in course of execution, or already executed, in different countries.

"With such views, and with the object of gaining at the hands of the public a reliance on those professors who are *bonâ fide* architects, one of the principal features will be the maintenance of a high standard of professional character and honourable practice in the members.

"Without aid beyond the circle of its professional members, it will at first, perhaps, be difficult to carry such a Society into full effect. The founders, in this respect, cannot but rely on the munificence which distinguishes so many noblemen and gentlemen in the country, for their patronage of the fine arts, for assistance to the Institute, in whose success they are necessarily interested. For such extensive views, the funds will, of course, depend on the number of its members: of these it is at present impossible to form an adequate conjecture, but on them must depend the extent of their application. It may not, perhaps, be assuming too much to suppose that, as in the case of other societies, certainly not more important to the community, the government will not only afford to the Institute a place for holding its meetings, and depositing the collection it may acquire, but will also readily acquiesce in the application for a charter, by which it may be incorporated. Beyond the ordinary expenses of the Institute would be those attendant on the annual or other periodical publication of communications; the payment occasionally of draftsmen, in cases of extraordinary or interesting buildings, a memorial of which should be preserved; the formation of the library, and, perhaps, the distribution of prizes for works which have been published by the members; for the encouragement of particular branches of architecture, by essays or designs, theoretical and practical; and for the suggestions of improvements in building, worthy of the objects on which they may be bestowed.

"The foregoing may be considered, then, the general objects of the Institute, which are, in few words, the promotion and encouragement, by all the means in their power, of the art and science which the founders profess. It is their desire, more especially, to advance these objects by acting in concert with all other institutions, both at home and abroad, with whom there exists a community of sentiment; and to disclaim at the same time, most decidedly, interference with any existing establishment."

The regulations occupy 15 or 16 pages, and at the commencement of the tract is given a list of the council, the fellows, the members, and the associates. The president of the council is Earl de Grey; the vice-presidents, P. F. Robinson, Joseph Kay and J. B. Papworth; the secretaries, Thos. L. Donaldson and John Goldicutt; ordinary members of council, Charles Barry, George Basevi, jun., Edward Blore, Decimus Burton, Charles Fowler, Henry E. Kendall, and Henry Rhodes; treasurer and banker, Sir Thomas Harvey Farquhar, Bart., St. James's Street; honorary solicitor, William L. Donaldson, 7. Hart Street, Bloomsbury Square. Architects in the country who wish to become fellows, will, of course, address one of the secretaries.

Art. XII. *Catalogue of Works on Architecture, Building, and Furnishing, and on the Arts more immediately connected therewith, recently published.*

A Catalogue of Books on the Sciences, Astronomy, Mathematics, Natural Philosophy, &c.; with some added that are Curious and Miscellaneous, chiefly from the Libraries of the Rev. Nevil Maskelyne, D.D., Astronomer Royal and F.R S.; Bishop Horsley, F.R.S. &c.; Dr. Charles Hutton, LL.D. F.R.S., &c.; William Philips, F.R.S. and G.S.S.; and Richard Heber, Esq.; on sale by John Weale, Scientific and Architectural Bookseller, 59. High Holborn, 8vo. London, 1835.

An Apology for the Architectural Monstrosities of London, and a Refutation of the many Misstatements respecting the Practice of Architecture in this Country, contained in a Letter written by Lieut.-Colonel the Hon. Sir Edward Cust to the Right Hon. Sir Robert Peel, Bart., M.P. 8vo. 1*s*.

Strictures on Architectural Monstrosities, and Suggestions for an Improvement in the Direction of Public Works. By T. Juvara. 8vo. 6*d*.

Thoughts on the Style of Architecture to be adopted in Rebuilding the Houses of Parliament. By the Author of the *Apology*, &c.

Houses of Parliament and Westminster Palaces. — Nos. I. to VI. are published of Britton and Brayley's History and Description of the late Houses of Parliament, and Ancient Palatial Edifices of Westminster, and the work will be completed in June, in Ten Parts.

Art. XIII. *Literary Notices.*

The Antiquities of Athens, accurately measured and delineated by Stuart and Revett, are now in a course of republication, in imperial folio. This work contains 384 engravings, by eminent artists, accompanied by essays, architectural, classical, historical, explanatory, and descriptive; exhibiting and elucidating the purest examples of Grecian architecture. The re-issue is published in parts, at 5*s*. each, any of which may be procured separately.

The Architectural Antiquities of Rome, accurately measured and delineated by Antoine Desgodetz, Architect Royal to His Most Christian Majesty, and Professor of Architecture in the Royal Academy of Fine Arts, at Paris. The text translated and the plates engraved by George Marshall, architect. This work contains 137 folio plates; the subjects are selected from the most esteemed specimens of Roman architectural magnificence, with descriptions and explanations in French and English. It will be completed in twenty-one parts, at 5*s*. each, forming two folio volumes. The original price was ten guineas.

Lewis's Sketches of the Alhambra, made in the years 1833–4; consisting of twenty-five of the most interesting scenes of the interior and exterior of that splendid monument of Moorish grandeur, a palace the most elaborate in beauty of decoration of any now existing, and the once celebrated Fortress of Granada; drawn on stone, in exact imitation of the original drawings, by J. D. Harding, R. Lane, A.R.A., W. Gauci, and John F. Lewis; are preparing for publication.

Select Specimens of Gothic Architecture, by William Caveler, architect, will be shortly published.

Plans, Elevations, Sections, Details, and Views of the splendid Church of Batalha, in the province of Estramadura, in Portugal, with a history and description, by Father Luis de Sousa, with remarks; to which is prefixed, an Introductory Discourse upon the Principles of Gothic Architecture, by James Murphy, architect; illustrated with twenty-seven most elaborately engraved plates, by the first artists; are preparing for publication.

The History and Antiquities of Little Maplestead Church, Essex, accompanied by a brief account of the Knights Hospitallers of Saint John of Jerusalem, from the introduction of the Order into England, until its final suppression at the dissolution of the religious houses in 1540, by William Wallen, architect, will soon appear.

Hydraulia; an historical and descriptive Account of the Water Works of London, and the contrivances for supplying other great cities, in different ages and countries; by William Matthews, author of *The History of Gas Lighting,* &c.; is nearly ready.

Designs for Iron and Brass Work, in the style of the fifteenth and sixteenth centuries; consisting of twenty-five plates of locks, hinges, bolts, handles, fire dogs, grates, railings, vanes, lamps, lectoriums, &c.; designed and etched by A. Welby Pugin, architect; are in progress.

Designs for Gold and Silver Smiths, in the style of the fifteenth and sixteenth centuries; consisting of twenty-five plates of cups, salt-cellars, epergnes, flagons, tankards, salvers, sconces, clocks, chalices, crucifixes, monstrances, reliquaries, feretra, &c.; designed and etched by A. Welby Pugin, architect; are in progress.

An Historical Sketch of the Art of Sculpture in Wood; with a critical examination of twenty-five magnificent statues of the most distinguished Protestants that formerly adorned the library of the church of Santi Giovanni e Paoli, at Venice, executed by Andrea Brustolina; will shortly be published.

The Steam Engine, explained and illustrated in a familiar style, with its application to the arts and manufactures, more especially in transport by land and water; with some account of the railroads now in progress in various parts of the world. By the Rev. Dionysius Lardner, LL.D. Fifth edition. One vol. 12mo. Illustrated with numerous engravings and woodcuts. In the press.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Wolff's Ideas on Intercolumniation. — Intercolumniation has hitherto been regulated by the diameter of the column, without regard to its height; whereas Wolff shows that it should be governed by the latter rather than the former scale. Whatever may be the height of the column, that will determine the distance from its axis to that of some other in the same range, whether it be the third or the fourth from the first, according as it is intended to have the columns closer together, or wider apart; and this, of course, determines the spaces between these, and the intermediate column or columns, and all the succeeding ones. By this means, an harmonious succession of squares, formed by each column and the third or fourth from it is obtained. Neither, as Wolff further observes, is it necessary that such squares should invariably be restricted to the measurement from the axis, and admit of no other change than that arising from the number of intermediate columns; because the fourth column may either be included in, or excluded from, each figure, the boundary of which will then be defined by one of its sides. He also shows how, in the Doric, the measure may be regulated, not by the height of the column alone, but by that to the top of the triglyph in the frieze, as that gives an extent of vertical line. (p. 155.)

Cooling and Ventilating in warm Climates. — Captain R. Wauchope, R.N., has shown, in *Jameson's Journal,* Oct., 1831, that this may be easily effected by forcing in air through porous earthenware tubes, kept moist exteriorly. The great evaporation which will take place on the outer surface of the pipes will cool the air in its passage through them. If, by some similar process, the air charged with moisture in cold climates could be deprived of that moisture before it entered dwelling-houses, the benefit to invalids would probably be very great. — *Cond.*

Heating Dwelling-houses by Hot Water. — I venture to predict that in ten years there will be an end of the application of hot water in heating dwelling buildings, unless some mode is devised that will get rid of its present many inconveniences under every form and modification of apparatus; this is my present conviction, and an unbiassed opinion, as you may judge, as I have put more people *in hot water* than any other person in this country. — *P. Q. R. Dublin, March,* 1835.

Concealed Wash-hand Stand. — In a room which I let to a young married couple, who cannot afford to pay rent for more than one apartment, it was desirable to have a concealed wash-stand ; but there was no convenient place for any of the ordinary cabinets containing the necessary apparatus for washing, &c. The recess by the side of the chimney was enclosed as a cupboard by a door in the usual manner; against the inside of which I screwed a common wash-stand, having its legs cut short enough to pass over the wash-board of the room without throwing the basin too high for comfortable use. When the door is shut the washing apparatus is in the cupboard, but when the door is open the means of washing are in the room in a most convenient situation. This contrivance, and the sofa-bed together, afford the economist the uses of a bed-room without the appearance of one. — *John Isaac Hawkins, Civil Engineer. Hampstead Road, May* 22, 1835.

Art. II. *Domestic Notices.*

ENGLAND.

Opening *Meeting of the Institute of British Architects.* —The members of this Society held their Opening Meeting at their rooms, 43. King Street, Covent Garden, on June 15th, on which occasion they invited the attendance of the presidents and members of the various scientific bodies whose pursuits are at all analogous with theirs. In consequence the attendance was numerous, and we observed among those present the Duke of Somerset, Sir Martin A. Shee, P.R.A., Sir Edward Cust, Sir Henry Ellis, Sir Graves Haughton, the Hon.Thomas Liddell, the Hon.William Cust; Messrs.Vivian; Walker, P.C.E.; Wilkins,R.A.; Phillips,R.A.; Cockerell, A.R.A.; Deering, A.R.A.; Greenough, Capt. Pringle, Dr. N. C. Taylor, Professor Hoyen of Copenhagen; M. F. A. Bernhardt, a Saxon architect; and many other persons, distinguished friends of architecture. Earl de Grey, the President, took the chair at half-past eight o'clock, supported by Messrs. Robinson and Kay, Vice-Presidents, and by Messrs. Barry, Basevi, Benton, Kendall, Rhodes, and other members of the council. After the minutes of the last meeting had been read, His Lordship prefaced the business of the meeting with some introductory observations on the circumstances that gave rise to that assembly. " I believe," said His Lordship, " that every profession connected with the arts and sciences in this country has had something like an association amongst the members professing it, except architecture. Several friends of this science have attempted, at different times, to establish a Society for promoting it; but, essential as all feel and acknowledge it to be, whether versed in it as a science, or merely regarding it with the eye of an amateur, from some cause or other they have always failed. We have, however, now a more cheering prospect opening before us; and this Society is formed for the cultivation of an art which can only be duly understood and appreciated by those who make it their study. Under these circumstances, I have the pleasure of addressing you, and through you the public, who, I trust, will hold out a fostering hand to its support; and who will step forward with boldness and kindness to help us and to raise the Institution to that character which this country is competent to give it. We have amongst us this evening professors of this art and science from foreign countries, who only want opportunities of this sort to become better acquainted with us, and through them we shall become better acquainted with their institutions. It is impossible to doubt that very great benefit must result to ourselves, and to the younger members of the profession, who may, by means of this Institution, have an opportunity of availing themselves of the experience of their elder brethren, with the advantage of that personal converse with each other, which is so much more valuable than the dogmas of a school, or the short-hand minutes of a lecture. If we only succeed in establishing this Institution on the broad ground and footing which I think we may, then we shall have an opportunity of deriving a greater acquaintance with the resources of the art. Having said thus much upon the Institution itself, I may, perhaps, be allowed to say a few words as respects myself, and the position I now occupy. I was asked to become the President of the Society by my friend on my right, Mr. Robinson; but I really did feel and and express myself sincerely, when I told him that I was incompetent to fill that office. I will add that I know nothing of architecture as a science; I acknowledge that I am fond of it, and that it is an amusement with me, and a subject of interest. I have dedicated a good deal of time and attention to it, but I know nothing whatever about it in a scientific point of view. The Institution may, perhaps, in some slight degree be benefited by my efforts; and since no one can doubt that my motives are perfectly disinterested, some little advantage may result from my associating myself with this Institution. On those considerations I certainly accepted the office, and I only hope that I may be able to fill it with effect. I can only add that at any period I shall be most happy to do all in my power to further the objects of this Institution, and to add my feeble efforts to promote so great and so magnificent a science as we must all acknowledge architecture to be.

Mr. Donaldson, the secretary, then read a paper explanatory of the views and objects of the Institute. After some preliminary remarks, he stated that the Institute now counted 80 Members, 50 Fellows of whom are architects of established practice in England. Every inducement will be held out to the junior class of members, by making such ample provision for general information and improvement as can be effected by the funds which the council may have under their control. Thus may the younger members of the profession be induced to look up to this Institute, composed as it is of the greater portion of the senior established architects in the United Kingdom, as a scientific body to which it must be alike honourable and advantageous to belong. Just eulogiums were passed on the two honorary members, Dr. Faraday and Mr. Britton, of whom it was observed that such were the names put foremost on the list of honorary members, and that the Institute owed it to them, as it owed to itself, that those who occupied in future the same position with them in the Society should be names equally honoured and respected in the field of science and literature. Allusion was made to the class of foreign and corresponding members, the list of whom contains the names of the most celebrated architects abroad. Much valuable information and instruction are expected to be derived from their communications: the professional objects of our architects travelling abroad will be facilitated by such intercourse; and again, their reception here by the members must produce a spirit of harmony and goodwill serviceable to architecture throughout the world. Communications have already been opened with various foreign academies, through the several embassies in London. The paper then went on to state the objects which the members had in view for the cultivation of architecture, both as a fine art and science. A library is forming, specimens of materials are being procured, models have been given, and, in fact, every thing is in due progress for establishing a museum. A paper of queries, containing the desiderata in every branch of architecture, has been drawn up, and, after revision by the members, it is to be distributed throughout the world. This paper is to contain questions as to edifices, in regard to their individual history, destination, size, distribution, and construction; precise information will be required on all sorts of materials and their application, the failures and remedies respecting which will offer a wide field of experience. Acoustics and lights will be also subjects of investigation. The literature of the art, its antiquities, biography, and education, are also included as proper for the attention of correspondents. These questions will be sent to foreign countries, and, as they will be translated into the various languages of Europe, it is hoped that they will find admission into the leading periodicals connected with science, and be diffused throughout the world. In the mean time, the council have determined to offer an honorary premium for an *Essay upon the Nature and Properties of Concrete*, for which all persons are invited to compete. Brief notices were taken of Messrs. Lee, Parker, and Nash, who had died since the formation of the Institute, and their several merits as architects were justly dwelt upon. The secretary concluded by an appeal to the public at large, and to the nobility, gentry, men of science, and members of the profession, to foster an Institution so essential to the due cultivation of a branch of art and science upon which so much of the comforts, elegancies, and, in fact, of the happiness, of every individual depends.

The list of benefactors was then read by Mr. Goldicutt, the junior secretary, and communications from contributors since the previous meeting of the Society. From Mr. Bellamy, 10*l*., Mr. Newman, 11*l*. 11*s*. as a fund for travelling students. From Mr. Britton, several books and two interesting drawings of a design for a triumphal bridge, by the late Paul Sandby. From Mr. Noble, a most valuable collection of books and prints, and 5*l*. to be laid out in any modern publication; and from Mr. Barry, 20*l*. for books. A vote of thanks was passed to all these gentlemen.

The President then communicated to the meeting that he had a most gratifying letter to read from Sir John Soane, who had not only distinguished himself as an eminent architect, but as a munificent promoter of the art of which he had been so exalted a member. It was to announce a donation of 750*l*. in his own name, and in that of his grandson, John Soane, Esq., to the general purposes of the Institute. The noble President himself proposed a motion for a vote of grateful acknowledgment to Sir John Soane, which was carried by acclamation, and a special meeting was ordered to be convened for Monday next, with the view of taking into consideration the mode in which the noble gift should be appropriated. After the meetings for the remainder of the season had been declared, as well as the subjects to be discussed thereat, thanks were voted to Mr. Donaldson, the secretary, for his zealous labours in the formation of the Institute; and Mr. Robinson, V.P., who sat on the right of the President, returned, in the names of the members then present, their acknowledgments for the honour which their noble President had done them, not only in having given his countenance to the Institution by accepting the office of President and presiding on that occasion, but by his contribution of 50*l*. towards its general purposes.

The whole evening passed off most satisfactorily to all present, and we doubt not that this Institution will fill an important station among the scientific societies of this metropolis, and, in fact, of Europe in general; its progress being distinguished by the greatest caution, and its objects embracing every practical point which can benefit architecture, whether as a fine art or science. — *T. June* 18. 1835.

Rebuilding of the Houses of Parliament. — From the report of the committee on this subject, read in the House of Commons, June 3d, and published in the *Morning Chronicle*, June 5th, we make the following extract; premising that we think the resolutions do honour to the committee, and indicate the dawn of a more liberal and impartial manner of acting in matters of this kind, on the part of government:—

"Resolved,

"That it is expedient that the designs for the rebuilding of the Houses of Parliament be left open to general competition.

"That the style of the buildings be either Gothic or Elizabethan.

"That a lithographic plan be made of Westminster Hall, and of the premises adjoining, showing the entire area to be occupied by the intended new buildings, and including the space to be gained by the intended embankment of the river.

"That, with the lithographic plan, there be given a specification of the general accommodation required, &c.

"That all designs be executed on one and the same scale, viz., of 20 feet to an inch, and that no coloured drawing of any kind be received, nor any perspective ones, save such as shall be taken from situations selected, and specified on the lithographic plan to be delivered to the parties, and no models be accepted.

"That all persons wishing to send in plans for the rebuilding of the two Houses of Parliament shall, on application to the Office of the Woods and Works Department, in Whitehall Place, be furnished, on the payment of 1*l*., with a copy of these resolutions, and other matters.

"That the plans shall be delivered into the Office of the Woods and Buildings, at Whitehall, on or before the first day of November next.

"That, in order more effectually to secure a correct decision upon the merits of the several plans, it is expedient that an humble address be presented to His Majesty, requesting him to appoint five Commissioners to examine and report generally to both Houses of Parliament upon the plans offered by competition; and that such commissioners shall select and classify such of the plans, being not less than three, or more than five in number, as shall seem to them most worthy of attention; and shall state, if required, the grounds upon which the propriety of such selection and classification is founded.

"That, in order to save any unnecessary delay in procuring the plans, or unnecessary trouble and expense to the parties furnishing them, it shall not be required that any estimate shall accompany a design; and should an estimate be required, any party called upon to furnish it shall receive compensation should his plan be ultimately rejected.

"That a premium of 500*l*. be given to each of the parties whose plans shall be recommended by the Commissioners, and shall be considered by them as worthy of the reward; that the successful competitor shall not be considered as having necessarily a claim to be entrusted with the execution of the work; but, if not so employed, he shall receive an additional reward of 1000*l*."

Lectures on Castles and Castellated Architecture have lately been given by Mr. Britton to crowded audiences at the Mary-le-bone Institution, at the west end of the town; and on *Indian*, *Egyptian*, *Grecian*, and *Roman Architecture*, at the London Mechanics' Institution. Accompanied, as they are, by numerous large and fine drawings, and replete with varied description, history, and criticism, these lectures are calculated to afford much useful information to popular, and mixed audiences; and, when we reflect how little has been done by the professors of architecture, and even by those who have been honoured by that title in the Royal Academy, we are persuaded that Mr. Britton will effect much good, and we trust that he may be tempted to repeat his lectures in various parts of the country.

We are enabled to give the following extract from his first discourse at the Mechanics' Institution, which will afford a specimen of the author's style and sentiments: —

"The *architectural antiquities* of nations are so many permanent records of their respective histories: they are indexes and memorials of the arts, the religious and civil customs, the habits and manners of man in different ages of the world, in varied and progressive stages of civilisation and refinement: hence they serve at once 'to point a moral and adorn a history.' Surely such a subject is worthy of the diligent study of the scholar and the antiquary; of the man of science, and, indeed, of every man who possesses rational curiosity, and who wishes to improve his own taste and judgment by examining the best works of his ancestors."

"'*Knowledge is power*,' says Lord Bacon; and, as His Lordship possessed a large share of the one, we are entitled to conclude that he had a fair portion of the other. We may also say that knowledge is dignity — is virtue — is synonymous with wisdom. And what is ignorance, the opposite to knowledge? It is folly, vice, stupidity, disgusting and degraded humanity. It is a murky, filthy, dismal *cave*, — where the sun of science never entered — where every thing is repulsive and offensive — where the sounds of harmony, intelligence, and good sense were never heard — but where, on the contrary, all that is vulgar and irrational are uttered in discordant tones and inhuman voices.

"Knowledge is the 'cloud-capt' mountain, whose summit man never reached — whose numerous paths of ascent are devious but inviting — whose many terraces and promontories serve at once for places of rest and prospect. It is adorned with temples of all the sciences; theatres for all the arts; palaces for all intellectual excellence. In proportion as man advances towards its apex, his vision is improved in keenness and compass, his faculties expand, and he looks around with intense admiration and pleasure on the numerous glories of nature; the countless objects of scientific research, of enquiry, of interest and utility to the human race. It is said that 'the wise men of the east,' the Egyptians of the old world, and the Greeks and other nations of antiquity, had ascended high up this mountain; but, whatever may have been their discoveries, few of them have been imparted to us, in consequence of the want of printing. In our own age and our own country we can speak with more confidence and more precision of the geographical features and characteristics of this imaginary mountain. Although we cannot expect to reach its top by steam-engines or balloons, we may be assured that the literary, scientific, and mechanics' institutions of the country will cooperate to make its ascent, from every side, more easy, and the varied prospects it commands more extensive and more fascinating."

Architectural Drawings in the Exhibition at Somerset House.—This department of the exhibition is by no means equal to what it has been many other seasons. Nearly all those who have been wont to contribute toward its chief attractions have declined sending any drawings this year; nor is their absence supplied by the appearance of any fresh accession of talent. There is not a single subject by Gandy Deering, Barry, Robinson, Papworth, Cockerell, Parke*, Blore, Cottingham, Salvin, &c.; while others, whose names are to be found in the catalogue, are far from distinguishing themselves by the drawings they exhibit. Vulliamy, who, for the last two or three seasons, has sent some large and well executed drawings, has only a very puny and insignificant one of his church in Woburn Square (954.); and Wilkins contents himself with showing a sketch of a design by him for the York Column (984.); and another of the National Gallery (1031.). The latter is upon so small a scale as to be hardly more satisfactory than some of the wood engravings published of it. Our astonishment was, therefore, as great as our disappointment; for it might naturally have been expected that, every thing considered, the architect would have been anxious to display the building to the utmost possible advantage, setting it off by all the pictorial aid of colour, picturesque perspective, and light and shade; and moreover bestowed on it some importance in respect to size. Neither would it have been amiss had he condescended to let the public see what he is about to do in the interior, and to judge how far the future exhibition-rooms are likely to surpass the present ones at Somerset House. Some drawings, or even a drawing, of the latter description, would have been the more acceptable, because there is this year hardly a single interior in the architectural room. There are, indeed, two in the adjoining one, which is set apart as the receptacle for a most multifarious and chaotic assemblage of subjects. Why they should be put aside there, as if not sufficiently good company for the other architectural pieces, or as if even unfit to be seen at all, — so well are they put out of sight, we can hardly guess. Allen's "Restoration of the interior of the ancient banqueting hall of the Artillery Company" (750.) is placed in a dark corner, next the floor, in one of the recesses which are continually crowded by persons peeping at the miniatures; it is, therefore, impossible to judge what it is. Nor is Hassell's "Boudoir in the residence of Gen. Sir J. Macdonald" so hung as to allow us to enjoy it.

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* This gentleman, whom we regret to say the arts have now lost (he died May 5th, in his 43d year), has three paintings in the exhibition.

The only other interior we observed is a restoration of part of a saloon in the Alhambra, looking towards the Court of the Lions (967.), by O. Jones; who is, we believe, quite a new exhibitor, and, judging both from this piece and No. 1033., "Ruins of the Great Temple at Karnack," we hail him with pleasure as one who is likely to prove a very great acquisition. We do not like him at all the worse because he seems to have a taste for subjects that luxuriate in pomp of colour. In this respect his Alhambra is gorgeous without being glaring, and, indeed, without the addition of colours, it is impossible completely to estimate the peculiar character of the Moorish style.

Sir John Soane exhibits only "An Architectural Sketch" (975.), part of a Gothic exterior, which manifests more sobriety, with not at all less fancy, than many of his former productions. We anticipated that the fire which happened last October would have communicated some warmth to our architects' imaginations, and have been succeeded by a deluge of designs for new Houses of Parliament; instead of which there are only two drawings of the kind, Gandy's "Sketch for new Senate Houses" (946.), and Tatham's project for the same purpose (985.). The former is a most flaming affair, and is altogether so extravagant, that its author seems to have been more anxious to furnish a certain, yet not humiliating, reason for its rejection *in toto*, than to bring forward an idea whose feasibility would recommend it to attention. Mr. G. is apt to run riot upon such occasions, and that, too, somewhat in the "Ercles' vein," being frequently as chimerical as he is imaginative. Mr. Tatham, on the contrary, can by no means be charged with having erred through excess of imagination; for his idea consists merely in converting Inigo Jones's building at Whitehall into a House of Lords, and erecting a centre building and corresponding wing for the House of Commons, &c.; consequently all that is his own is the connecting part, which offers nothing remarkable. Although such extension of the present building would give it that continuity and completeness which it now evidently wants (for, being insulated, it looks rather abrupt and short), and would so far produce an imposing façade in that style, we should hardly recommend it as of suitable character for a senate house.

In "Prior Park, Bath," (913.) there is a very unusual degree of architectural display and grouping, and the intended church, rearing itself up immediately behind the palace-like mansion, will produce a very showy effect; but what college these extensive buildings are intended to form, we have not heard; most probably it is some Roman Catholic institution. The next, No. (914.), "River front of the Hotel about to be erected at the new town of Rosherville, Northfleet, Kent," is creditable to Mr. Kendall, as possessing both novelty and propriety, a considerable degree of effect and satisfactory consistency of style, without extraordinary embellishment.

But the subject that most engaged our attention, as one of the happiest designs in the room, is No. 929., "High Cliffe, Hants, a seat of the Right Hon. Lord Stuart de Rothesay, now erecting. W. J. Donthorne." A finer and more able appropriation of the latest species of Gothic to the purposes of a modern residence, we do not remember to have ever before beheld. It possesses strong picturesque quality, without quaintness; and irregularity, without incoherence, and without the intervention of insignificant parts or features by way of giving importance to the rest. There is nothing of either the ecclesiastical or the castellated style in this composition: it does not at all remind us in any degree of the true "Tunbridge-ware" school of Gothic, as it has not inaptly been termed. The whole is bold and rich; and the architect appears to have judiciously availed himself of some peculiarities in the Continental styles. We congratulate Mr. Donthorne on the very superior taste this design manifests; and also congratulate Lord Stuart de Rothesay as the future possessor of so piquant and *recherché* a piece of architecture as this mansion promises to be. No. 974., by the same artist (" Bure Homage," also in Hants), is in altogether a different style; nor is it marked by any of the attractive quality that recommends the preceding.

No. 930., " Perspective view of a Design for a Villa" has considerable merit; and offers a very pleasing singularity in the portico. On looking over the catalogue again, we observe there are several other things which seem to promise some interest as far as their titles go; but either they had no attraction in themselves, and we accordingly passed them without stopping to ascertain what were the subjects, or else they are hung where they cannot be viewed, save only by Lilliputians, on whose level they would be; or by those approaching the stature of Brobdignagians. We trust that this truly preposterous mode of *stowing* away pictures and drawings is now nearly over, and that, in the room to be appropriated to architectural designs in the new building in Trafalgar Square, there will be no more than a single line of large frames, or two of small ones, along the walls. Such works require to be submitted to as close inspection as engravings; and were no more taken in than could be hung so as to be distinctly viewed, the character of this portion of the exhibition would be greatly improved, as it would, of course, become more select, while, at the same time, all that it contained could be fairly seen and fully enjoyed: the very reverse of which is now the case, for a more heterogeneous mixture could hardly be contrived; a sort of " awkward squad" of portraits and other oil pictures, and nondescript subjects, being hung up with the architectural drawings.

Among the models, in the council room, we were best pleased with No. 305., " The Town Hall and Markets, Penzance," H. J. Whitting; No. 306., " The Receiving House, Hyde Park," J. B. Bunning; and that of the " Indigent Blind School" (307.); although the last is on rather too minute a scale, and not very advantageously placed, the front being turned from the light. In our opinion it would be an improvement, were the glaring whiteness of these plaster models subdued; and were there some little indication of local colouring given to them, when, as is the case with the last-mentioned subject, the building is constructed of stone and brick. — *H.*

Cambridgeshire. — A Well has been dug and bored on the green of the village of Waterbeach. " It was first dug 14 ft. deep, and then bricked, and the land-springs kept out by puddling the outside of the brickwork with gault. The operators then commenced boring, and got a copious supply of good soft water between 90 ft. and 100 ft. from the surface. The well is piped with tin pipes, and a pump is put down. Every one of the neighbours that I have spoken with on the subject says it is the best thing that was ever done for the parish; as every one residing in it can be now supplied with wholesome water. The well has been sunk by subscription. The estimated amount was 20*l.*, and I do not think it has exceeded it. The soil the well-sinkers went through was, 1st, vegetable soil; 2d, sandyclay; 3d, pure clay; 4th, gault, to a great depth; and, 5th and last, rock or stone, which they had to work through with the chisel." — *J. Denson, sen. Waterbeach, near Cambridge, Feb.* 25. 1835.

It may be useful to state that all the wells and pumps in the village (" parish") are supplied from land-springs, except a few, two or three of whose proprietors have had deeper wells bored. Soft water, usable for washing linen, is supplied from these, and neighbours can avail themselves of it by paying a trifling periodical acknowledgment. The well now provided on the Village Green is available to all, without any payment but the first one for providing it. At Kensall Green, and at Kilburn, the springs are mainly land ones, and in seasons of drought water has to be bought dearly of the few who possess bottom springs. — *J. Denson, jun. Bayswater, March* 1. 1835.

Devonshire. — It will, perhaps, surprise some of your readers to learn, that in some parts of Devonshire that useful and sightly material, Portland stone, is subject to the daubings of the painter; the reasons given for which are, that it is done to prevent both the stone from becoming covered with vegetation, and its partial decay, or eating out, as it is termed, into cavities! The first of these is easily cured, and the other, as far as my experience goes, occurs only in inferior specimens, or after a great lapse of time; neither, however, even in the worst cases, can sanction a disguise that destroys its beauty as a superior material to plaster or wood. Some of your correspondents may be able to afford more convincing arguments than I have against the practice. — *Architectus.* *April* 13. 1835.

Glamorganshire. — The foundation stone of *the Glamorgan and Monmouthshire Infirmary*, which is to be erected at Cardiff, was laid last week, by Daniel Jones, Esq., of Llantwit, to whom the compliment was awarded for his munificent donation of upwards of 2000*l.* to the Institution. (*Worcester Herald*, May 2. 1835.)

Lancashire. — *Preston, March* 2. — Such a publication as your *Arch. Magazine* has long been wanted, and I have no doubt it will be of great service to many amateurs, whose taste may lead them to the cultivation of the science of architecture, as well as to the purely professional man, to whom it will afford an opportunity of giving and receiving, through your correspondence department, much useful and valuable information. I live in a town which I believe is more rapidly on the increase than any other of the same class in the kingdom; and which, from its numerous local advantages, coupled with the spirit of enterprise and improvement which has been, for some time, manifested by many of its inhabitants, I have no doubt will soon become a place of considerable importance, not only as a flourishing manufacturing and commercial town, but for its architectural beauty. I look forward with the hope that, while it increases in size and opulence, its buildings may not disgrace the natural beauty of its situation and its original boasted appearance, before it became, as it has only recently done, one of the seats of extensive manufactures. In all towns such as this, there is generally much cause to lament a want of taste in the style of the buildings. In manufacturing towns the inhabitants are too much inclined to look merely to utility, without paying much attention to appearance; but in the erection of a dwelling-house, however humble it may be, or even in building a manufactory, if the general style can be improved without much increase of expense, surely some attention ought to be paid to the attainment of so desirable an object. In most manufacturing towns the labouring classes are much disposed to have a dwelling-house, however small, for each family; and I am strongly inclined to encourage that feeling of independence that induces this desire: it is certainly much better than that six or eight families should have lodgings in one large house. This system, I mean that of having separate dwellings, which is here generally adopted, is, however, in some degree, a drawback on the appearance of the towns where it is acted upon; for the number of cottages necessarily bears too great a proportion to that of the larger houses. It is, therefore, of great importance, in order that the comfort of all classes may be promoted, that the cottages should be as commodious in their internal arrangement, and as neat and correct in their external form, as possible. With this view I should feel obliged, and at the same time you would confer a benefit on all such towns as ours, if either you or any of your correspondents would throw out some hints for the erection of dwellings of the description I have mentioned. They are here generally built in rows or streets, of from ten to forty together, costing from 80*l.* to 140*l.*; and they are so perfectly monotonous in their appearance, that after seeing one of them you have a fair sample of the whole. It is, indeed, no uncommon thing for a person to contract for the building of thirty or forty such houses, without having any thing on paper in the shape of a plan, it being only understood that they should be exactly similar to those of Mr. So-and-so in the next street; and, therefore, it is evident that we are in a fair way of perpetuating what I believe you would, were you here, say was a bad style, unless some new ideas on this subject be given to us.

The Park, which our corporation here is forming for the use and recreation of the public, consists of more than 200 acres of excellent land, possessing many capabilities, and having an abundant supply of water, and an undulating surface. It is being partially planted and laid out in wide avenues and extensive drives and walks, and it is intended that it shall be surrounded by ornamental detached villas. Subscriptions are also in progress to erect, on an elevated part of this park, a handsome monumental pillar, commemorative of the character of our revered townsman, the late John Horrocks, Esq., M.P. for this borough. This will be appropriate and proper, for he possessed a mind so exalted and comprehensive, that any monumental honours conferred upon his memory would be ill placed in any fabric of man. A lofty Doric column, placed in open space, will, therefore, best promote the intentions of the numerous friends he left behind him, many of whom yet survive, and now wish to honour his name.

A Cemetery, on an extensive and handsome scale, on part of the same ground, is also spoken of, which may be made to add much to its appearance, and is now wanted in Preston. Of these improvements, and also of the North Union Railway, Viaduct, and Bridge of five arches, each 120 ft. in span, over the Ribble and its beautiful valley, the whole extending three quarters of a mile, I hope to be the means of giving you some information as they proceed; and shall be glad to see in your Magazine any hints regarding them, either from you or any of your talented friends or correspondents.—*William Taylor.*

Liverpool. — A building on a very extensive scale is about to be erected in Mount Street, Liverpool, for the purposes of the Mechanics' Institution. The funds for this purpose have been some time accumulating; and the committee, about three months ago, advertised for competition plans. Sixteen sets of designs were sent in, from which the committee selected those of Mr. A. H. Holme, the late Mr. Wm. Alderson, and Mr. J. A. Picton. To the latter gentleman has been entrusted the task of combining and arranging these plans, and carrying them into execution. The building, when finished, will be the largest and most complete, for the purposes for which it is erected, of any in the kingdom. The cost, when completed, including the land, will be about 10,000*l.* The Liverpool Mechanics' Institution affords a striking instance of what may be effected by individual energy and perseverance. A very few years ago this Institution, which was established in 1825, was in a sinking state; the funds in an extremely low condition, the number of members not more than three hundred, and the whole affair seemed likely to expire from mere exhaustion. From this state it has been raised by the (originally) almost unaided energies of two successive honorary secretaries, John Leyland, and J. S. Radcliffe, Esqrs., who have spared no sacrifices of either time, labour, money, or influence. By their exertions, the public attention has been awakened to its advantages, influential individuals have lent a helping hand, the number of members has been augmented to about twelve hundred, and a height of usefulness and prosperity has been attained, equal, if not superior, to any similar institution in the country; and all this, too, in the face of the direct opposition of some, and the lukewarmness of others, who seem to dread the diffusion of knowledge as they would the plague. Several most handsome donations have recently been presented to the building fund, amongst which may be more particularly noticed two of 500*l.* each, from R. V. Yates, and Jas. Mulleneux, Esqrs. — *P. Liverpool, May* 16. 1835.

Norfolk. — *Norwich, May* 2. 1835. — I remember being particularly pleased with the article by Scrutator, in your first Number, p. 12. A case in the same line has recently occurred here. One of the sub-contractors of a building (the plasterer) conceived that some of his work was not included in the plans and specifications; upon which he delivered in a bill of extras to the general contractor. After some delay it was left to reference, and " custom, all powerful custom," was the plea. The architect described the cornices to be 12 in. in girt in the specification; and they were shown half size in a drawing. The architect conceived the proper way of measuring them to be by applying the compasses to the sides at right angles, as if he were measuring a scantling; but the " custom " is to pass a string over the whole of the mouldings, in the waypainters' work is measured, and equitably so. It would have been better to have referred to drawings, but it does not always happen that working drawings can be completed in time to append to the contract. The referee went at once to the point, considering that sub-contractors were bound to submit to the same terms as the general contractor; in addition to which the plans particularly exhibited the cornices; and the general saving clause in the specification completely precluded any charge for extras being made by the general contractor, unless such extra works were ordered afterwards in writing. It ought to be observed, the general contractor put down the works of the other artificers in his tender at the same price as they gave in, so that, if he had been cast, it would have been a total loss to him. The referee in this case was Mr. Carniel Darkins of this city, and it is but common justice to admit that he acted with great prudence; it is, perhaps, the first instance in this district where "custom" was so completely defied. As a conclusion, I would advise all parties to be very cautious in making out estimates, taking care to satisfy themselves on every point; and if they make up their minds to risk something in competition in order to obtain the job, let it be a certain sum of money, not an uncertain quantity of work. — *W. T.*

Northumberland. — The Newcastle and Carlisle railway was opened on the 9th of March, by a procession of carriages drawn by locomotive engines, which proceeded towards Hexham at an average rate of from twelve to fourteen miles an hour. The ease and rapidity of the conveyance afforded the greatest pleasure to the numerous and delighted visiters, and a triumphal arch, and an immense assemblage of people, welcomed the procession at Hexham.

The railway is itself a pleasing object, the slopes of the cuttings and embankments being finished in a firm substantial manner, and the grass-grown sides being as beautiful to the eye as they are essential to the solid retention of the earthwork. The vale of Tyne, through which the railway passes, is one continual panorama of beautiful and romantic scenery: spacious green *haughs* or *holmes* spread out in the hollow of the valley, overlooked by hanging woods and lofty banks, while cheerful villages, and various other objects, impart a delightful aspect. The spire of Ryton, the ivy-mantled walls of Prudhoe, the noble tower of Bywell, the seat of T. W. Beaumont, Esq., M.P., and the melancholy and deserted ruins of Dilston, pass like a fleeting vision, and leave behind them day-dreams of every charm that historical association and landscape beauty can impart.

The act for this railway was obtained in May, 1829; the arrangements for passing through the land of various proprietors occupied nearly the whole of the following year; the works at the western end of the line were begun in September, 1830; but the eastern part, now opened, was not commenced until February, 1831. The care with which these preliminary arrangements were made had the happy result of preventing the more serious and expensive delays which litigation and disputes have so often occasioned in similar undertakings, and the works have since proceeded as rapidly as the nature of the district and the funds of the company admit. The earthwork of that portion of the line now opened has thus become firmly consolidated, and the masonry and other works are constructed in so firm and durable a manner as must greatly conduce to the permanent interests of the railway. The ascent from Blaydon to Hexham is of very moderate inclination, seldom exceeding 3 ft. or 4 ft. in a mile, and opens a communication between a populous agricultural and mining district and the river Tyne, which communication will, ere long, be extended to the western sea.

This line of railway is double the length of the Liverpool and Manchester line, and will be completed for little more than half the cost of that railway, being, in point of economy, an advantage of nearly 400 per cent. The works were commenced under the direction of Mr. Giles, who is yet the consulting engineer of the company, the engineering department having latterly devolved on Mr. Blackmore, whose able and active superintendence has greatly contributed to the successful termination of the work. The eminent services of Benjamin

Thompson, Nicholas Wood, and George Johnson, Esqrs., who form the committee of management, have also been zealously employed in conducting this great undertaking; and the skill and experience of these gentlemen are at once a safeguard of the interests of the shareholders and of the public.

As regards this town, the opening of this important communication is an event of the greatest interest to all who are concerned in its commerce. No town in England is more happily situated than Newcastle for the centre of a manufacturing district. Coals, iron, lead, limestone, and other minerals, are found in rich profusion throughout the district. The agriculture of Northumberland is famed throughout the kingdom, and the tonnage of the Tyne already ranks second only to that of the Thames. A communication between two populous towns, uniting two seas, and leading through a country so rich in its resources, cannot fail to prove one of the most satisfactory speculations ever undertaken in this part of the kingdom. A city of palaces is rapidly rising within the very walls of Newcastle, and we trust that increasing trade and commerce will amply reward the spirited projectors both of the railway and of the other public improvements of the town and district, and that Newcastle will long remain the capital, and the river Tyne the metropolitan harbour, of the north. (*Newcastle Courant*, March 14.)

Yorkshire. — I have been for some months endeavouring to get up an architectural society in ———, for the improvement of architectural science and practical knowledge, and for the mutual advantage of the members of the profession. The thing has been talked about and met with the approval of most of the architects in the town; but, as usual, what is everybody's business turns out to be nobody's, and I suppose, if I do not exert myself to an extent which some may deem impertinent and officious, the scheme will never see the light. The architects and surveyors in ———, like Washington Irving's "money-diggers," seem to have but one idea — that of getting all they can; whether they deserve it or not, is a question which seldom troubles them. The incubus of corporate monopoly presses like the nightmare upon the development of architectural talent in any of our public buildings; but this, it is to be hoped, before long, will be put upon a footing more in accordance with the spirit of the age. — *P. A. L.*

SCOTLAND.

Edinburgh Royal Institution. — There are two operations going on here at present which may possess some interest for you. The one is the conversion of the heavy Doric building, which you may recollect seeing on the earthen mound, into one of the most beautiful Greek temples in Britain. I send you two engravings of it in its original state, and a little vignette, which was engraved for the admission ticket at our late scientific meeting. [*Fig.* 163. is the entrance front of the Royal Institution, as seen from Hanover Street, in the New Town; and *fig.* 164. the opposite front, looking from the Old Town, as

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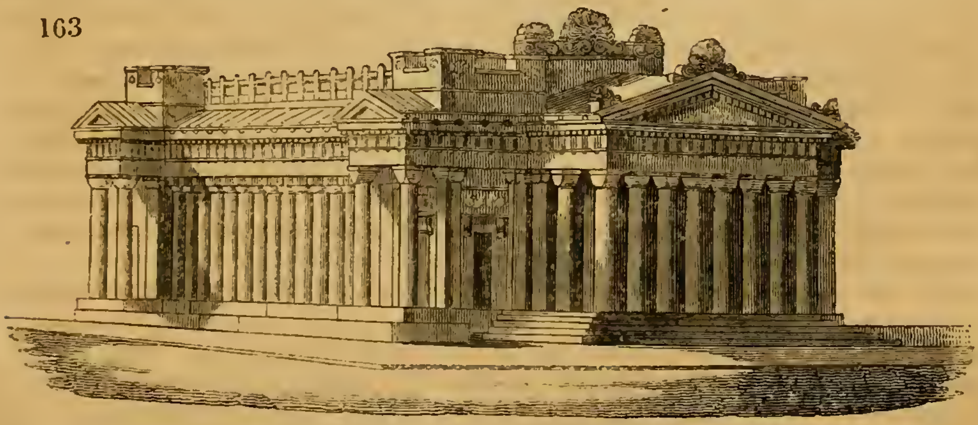

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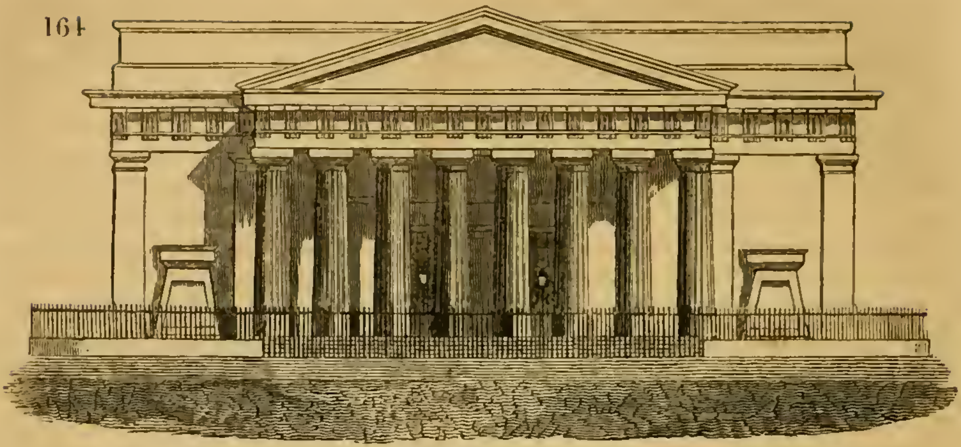
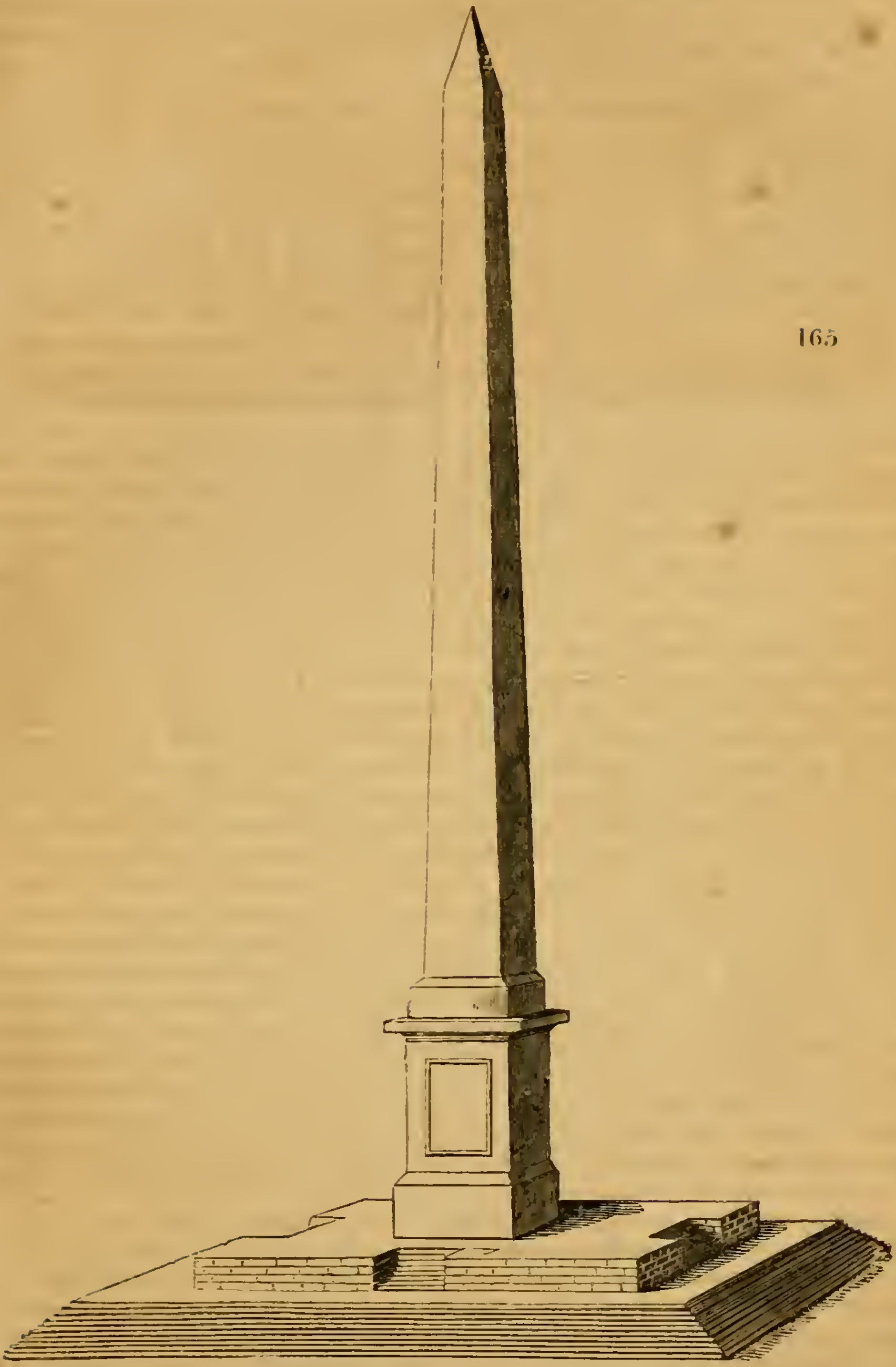


the building is now altering.] I shall be glad to learn your opinion of the propriety of the changes. You will observe that in the original plan the deep solid parapet (the building being really of two stories, though apparently of one), rested on the columns, which, though Doric, seemed overloaded with the mass. In the new arrangement, the parapet is transferred to the wall in which the windows are pierced, and the intervening space is covered by a sloping roof. Another change, which is, perhaps, not so happy, is the introduction of the four projections near the angles of the building. They certainly look pleasing enough to the eye, yet one cannot help asking one's self, why are these (apparently) subsidiary entrances required so close to the main ones? The north portico (*fig.* 163.) is one of the finest things of the kind I ever saw, and the south one is hardly inferior. The whole will be complete in May.

The other novelty is *the projected monument to Sir Walter Scott*, for which many designs have been offered, such as Norman crosses, Gothic chapels, and cast-iron baldaquinos [from *baldachino*, Ital., a building in the form of a canopy], all very pretty in their way, on paper, or in a smiling country village, where they would be seen in contrast with small rustic buildings and natural verdure; but which would be apt to look insignificant when brought into competition with the great masses of building to which the eye is accustomed in Edinburgh, from the peculiarity of its situation and construction. A plan of a different kind has long been advocated by some persons here, who argue, that, considering the limited amount of the funds at the disposal of the committee, and the nature of the situation, it is impossible to produce a monument of any effect if fine workmanship be bestowed on the details; and that, without seeking for other reasons, these circumstances make the adoption of some construction necessary, in which, by taking advantage of our plentiful, cheap, and beautiful freestone, an imposing effect may be produced by mass.

An accurate calculation proves that for little more than 5000*l.* an obelisk of 200 ft. high (including the expense of the foundation) may be erected. This is on the supposition of the base being 20 ft. square, and near 40 ft. high. I have ventured to suggest to the architect, Mr. Playfair, that as many persons have a feeling that an obelisk appears ungraceful, because it rises too abruptly out of the ground, this obelisk should be made to spring from an extended platform and terrace to be formed in the middle of Charlotte Square, where there is plenty of space for it, and where the platform might be ornamented by vases of living plants, &c. The sketch (*fig.* 165.) will give you some idea of what I propose. If this plan be adopted, the obelisk will be built hollow, in which case I intend to propose that a copper wire shall be fixed in the internal apex, and shall reach from that nearly to the ground, where it shall have a heavy metallic ball suspended by it: this being done, an opportunity will be afforded of measuring the degree of flexure which the wind will give to the shaft, as the deviation of the pendulum from the axis of the pedestal will show the quantity of displacement at top. — *R. Edinburgh, Feb.* 2. 1835.



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ART. III. *Retrospective Criticism.*

GOODWIN's Domestic Architecture (see Vol. I. p. 132.). — It is not as a correspondent of the *Architectural Magazine* that I ask you to allow me to avail myself of its pages on the present occasion, since I am willing to believe they would be open to me, under the same circumstances, were I an utter stranger. The matter itself, indeed, is rather beyond the professed scope of your journal, still, as it relates to an architectural publication, and to one, moreover, that was reviewed somewhat at length in Vol. I. p. 132., little apology can be required for bringing it before your readers; while they are the very class of persons whose good opinion the party I tax with trickery and unfairness is anxious to engross quite to himself.

On the titlepage to the *Second Series of Goodwin's Domestic Architecture*, my name stands as that of the author of the literary and descriptive part; whereas, in the new edition which has just appeared, it has been expunged. When, some short time ago, Mr. Goodwin informed me that the work was about to be republished, he did not utter a syllable as to making alterations of any kind in it; nor did I caution him as to letting my name remain, taking it for granted that, since it had once appeared, it would not be withdrawn; certainly not without my concurrence being asked and obtained. Unhandsome as the manner is in which Mr. Goodwin has herein acted, it deserves to be called manly plain dealing, when compared with the trick he had previously condescended to resort to, but which did not come to my knowledge until after the publication of the new edition of his work. It was by mere chance I then detected that it was only to a part of the former edition my name was suffered to appear, either the titlepage having been altered after a certain number of copies had been struck off, or else cancelled and a new one substituted in lieu of the first. It is probable that the latter was really the case, and that Mr. Goodwin adopted this ingenious manœuvre in consequence of a remark made in the very critique to which I have alluded. Yet, to say nothing of its unwarrantable and disgraceful meanness, the manœuvre itself showed any thing but the generalship of an able tactician; because the letterpress to the first series was such mere *vox et præterea nihil*, that Mr. Goodwin should have been more solicitous than reluctant to let some one's name appear to the second series, as a pledge that rather more pains had been bestowed on its descriptive portion; and also because the tone of many of the remarks is such as no man could, with propriety, adopt in speaking of his own designs, and consequently, by concealing the author of them, he was rather injuring himself, and risking the imputation of self-conceit, and extreme bad taste in displaying it.

In attributing the suppression of my name, after it had gone forth to the public, to jealousy on his part, I may, myself, seem not entirely exempt from vanity; yet I know not what other cause can be assigned for such an extraordinary proceeding — and one no less short-sighted, withal, than contrary to practice and precedent. He might possibly flatter himself that I should make no enquiry about the matter; or that, if I found out what had been done, I might not easily find an opportunity of making the world acquainted with it; or else, that I should give myself no trouble about it. It certainly is not worth much trouble; although, by the singular pains he has been at to secure the credit of it to himself, I must needs presume that Mr. Goodwin at least thinks rather highly of what he has so appropriated.

Delicacy towards Mr. Goodwin being now out of the question, I may be allowed to say that, whether considered improvements or not, the alterations in several of the plans, as suggested in their descriptions, originated wholly with myself; and that I was furnished with no other materials for the task I undertook than the drawings alone, consequently am not indebted to Mr. Goodwin for any thing, except a little matter-of-fact information in regard to the buildings he had actually executed.

I now leave him to congratulate himself on the success of his notable artifices and underhand manœuvres; which, if not worth exposing for their importance as they affect either of us, still, I think, ought not to be let pass with impunity. — *W. H. Leeds. London, June* 4. 1835.

Forsyth's Architectural Opinions: Candidus, in Reply to Verus (see p. 243.). — It is rather with the view of showing your other readers that I am not in any wise staggered by Verus's comments, than with the hope of convincing him he is at all in the wrong, that I take up my pen to reply to his animadversions.

As a vindicator of Palladio, I do not think he has greatly benefited the cause he has espoused; for, while he admits that "many and serious defects are fairly to be ascribed to the Palladian system," he has not pointed out any one of those merits which he would have us believe more than counterbalance them. Surely it would have been somewhat to the purpose, had he opposed to my list of gross solecisms and deformities a corresponding one of the particular beauties and elegances which stamp the works of the great Vicentine master. Instead of which, all that he can directly advance in his favour amounts to no more than that "the common consent of ages, and the best reason of modern times, have pronounced many of Palladio's works to be admirable." Yet, in order to estimate the value of the testimony they have given in favour of Palladio, it is not quite irrelevant to ask ourselves what "ages" those were. Now, it awkwardly happens that, among them, we must place the times when persons were so utterly blind to the elements of architectural beauty as to be unable to discern any æsthetic merit, any taste in Gothic edifices, which they were pleased to decry as barbarous, monkish, and gloomy. Neither can I avoid suspecting that one great cause wherefore Palladio has been so highly estimated, is as much owing to the preposterous absurdities perpetrated by other Italian architects in the succeeding century, as to his positive excellence. Surely Verus cannot pretend to say that his reputation stands as firmly as ever it did, now that the study of both Grecian and Gothic architecture has opened to us different views of the art from those entertained during the period comprehended by the "ages" to which he refers us.

Most certain it is, that admiration of Palladio now very seldom goes to the length of imitation; while it is undeniable, that several later writers have not spoken of him in terms expressive either of particular reverence for him, or approbation of his style. Mr. Hosking, for one, shows himself, in his *Treatise on Architecture*, to be hardly more favourably disposed to Palladio than I myself am. He goes so far as to say that he "clearly did not appreciate" the classic models which he drew; and that his works abound with "blemishes too numerous and too great to be passed over, because of occasional elegance of proportion and beauty of detail;" though, for my own part, I am at a loss to conceive what beauty of detail is to be gathered from his buildings. On the other hand, it strikes me as rather a stretch of veracity on the part of Verus, when, with the extract from Legrand before his eyes, he asserts that every one has been "silent on the architectural merit of the doge's palace." Neither can silence be reckoned conclusive in disparagement of it, it belonging to a class of buildings which, until of comparatively late years, attracted no notice from either professional architects or travellers. In calling attention to Mr. Forsyth's criticism on it, my object was chiefly to show that he betrayed a bigoted, narrow spirit, — one altogether so different from that of a real connoisseur in the art, as to render valueless the praise he has bestowed on Palladio.

But Verus imagines he has got me into the wedge of a dilemma, by saying that, if I would have people believe in the architectural beauty of the ducal palace, they are, by my own showing, also bound to do so in that of the elevations of Palladio. Now, I did not apply the term "beauty" at all to that edifice; which, as usually understood, is one that would very ill express its peculiar characteristics; nor do I know of any single word in our language that would do it justice. Although it runs counter to ordinary rules, it is fine, impressive, and picturesque, full of dignity and grandeur. Then, says Verus, we claim a similar admission in favour of Palladio, and contend that, let his defects be what they may, he has merits which amply atone for them: for so I interpret his meaning. I have, indeed, admitted that "a piece of architecture may have several individual blemishes, and yet may be admirable as a whole;" and that there are blemishes enow to be met with in Palladio I do not deny, yet it does not exactly follow that they are, *therefore*, accompanied by redeeming qualities. I had previously instanced what I considered a very glaring specimen of bad taste among Palladio's designs; why, then, did not Verus point out in what the excellence of that façade consists, or else, at any rate, bring forward some particular building as an example of his felicity. As Verus did not care to do this, I am at liberty to suppose he did not find it exactly convenient for his purpose. Neither can I help being of opinion that he has somewhat overshot his mark, since he seems to make no allowance for constitutional difference between one system of architecture and another, but to suppose that the same degree of license which is admissible in one must be equally so in another; and that, if we are not shocked in the older Venetian style at what is so much at variance with the principles of architecture as usually laid down, we have no right to take offence at the vagaries of Palladio. It would also be difficult for him, I apprehend, to produce, from the works of Sir W. Chambers, parallel instances of the deformities I have enumerated as to be met with — I might say, which predominate — in those of the Vicentine architect.

I do not disavow the epithet of "Proteus," which it has pleased Verus to apply to me, because I do not pique myself upon possessing such a one-sided taste, as to hold that we cannot entertain a sincere affection for any one style in particular without condemning all the rest. Therefore, although I do not admire Palladio's own manner, which partakes too much of *el estilo plateresco* to obtain favour in my eyes, I can perceive great merit in many of the designs of Chambers and other later *Palladianists*, purged of the abominations that disfigure nearly all the productions of their master. As to Jones, indeed, I must be excused from expending much admiration upon him, whether it be to satisfy Verus or any one else.

My respondent has got hold of a very mistaken notion, in supposing that I cited the name of Sir John Vanbrugh with approbation, or alluded to him otherwise than as an authority, and not an unsuccessful one, for availing himself of chimneys as component parts in his designs. My words went no further than to express how widely Vanbrugh's practice herein differed from Forsyth's theory; because, while the one insists that such "sordid objects" ought not to be suffered to appear, the former was anxious to render them "agreeable and consistent features," and generally made them "tell" admirably. Now, pointing to him as an example for what may be so accomplished is, I conceive, altogether a different thing from commending his style of design. In like manner, the quotation from Williams was intended, not in direct approval of the kind of chimneys to which he refers, but merely as evidence to show that they contribute to picturesqueness and decided character, where little other merit is to be found. Nothing was further from my mind, at the time, than to recommend the application of those forms for the purpose required. If they cannot be denied to be picturesque, even when exceedingly uncouth in themselves, it is for the architect to confer beauty upon them likewise, and to exhibit them in perfect harmony with all the rest of his design, whatever may be the style he adopts for it; at least, unless he can contrive to screen them entirely from sight.

Verus has put the following query: "Could he" (meaning myself) "find no better architects in the list of native talent than the authors of Thornbury and East Basham?" and, in reply to this, I cannot help remarking that the obliquity of view with which he seems to have read my article does not say much for the candour he pretends to. There was nothing whatever in my remark that claimed preeminence of rank, in the list of native talent, for the authors of Thornbury and East Basham, whose names, as far as I am aware, have not come down to us. I did no more than point to the buildings themselves, for the purpose of showing how much care and study were bestowed by the architects of that period upon their chimneys, which they well knew how to render appendages no less appropriate than prominent and ornamental.

Again does Verus appear to me to have entered upon an unfortunate line of argument himself, when, in comment on my remark that the ducal palace of Venice has no little fascination for painters, he urges that *that* "is no proof of its fine architectural character. That proves either too much or too little, since the same line of argument would establish that every crazy, tottering old cottage or gable, in short, any thing that is picturesque in the eye of a painter, is really a fine piece of architecture." Is Verus, then, so utterly unable to discriminate between the different constituents of picturesque quality, or the manner in which that quality is influenced by its association with others, as to suppose it possible for any one to confound the species of the picturesque which exhibits itself in that palatial edifice, with the widely different kind which recommends to the artist objects unsightly in themselves, and yet capable of being rendered highly attractive when transferred to paper or canvass? Or is he disposed to advance a step further in his *reductio ad absurdum*, and to maintain that, because an artist may find his account in depicting age and deformity, and treat them quite *con amore*, he is, therefore, an incompetent judge of beauty; and few artists, I conceive, who are able to appreciate and to do justice to the ducal palace, as a subject for their pencil, will assert that they recognise no other merits in it than what they could find in any " crazy, tottering old cottage or gable."

Whether the victory be assigned to Verus or myself, your readers will have the benefit of the discussion, and perhaps be induced to reconsider more attentively than they otherwise might have done what has been urged by each of us in our respective views of the question, before they decide in favour of either of us. — *London, June* 3. 1835.

Competition Designs. (p. 283.)—In reference to this subject, allow me briefly to record my ideas (upon which I would invite the opinions of my professional brethren) as to the only fair way to decide upon all occasions. My plan is simply this: — Apply to a few gentlemen, or throw open to public competition (the former being preferable); and let all the designs be submitted to the candidates sending in; a time being appointed of sufficient duration to enable them to decide, with satisfaction to themselves, as to the merits of each. Then let each such candidate give in his opinion in writing, sealed up, stating which he considers the best design (of course excluding his own); the scrutinisers of these opinions to be appointed, one only of the committee requiring the designs, the other out of the competitors themselves. If this plan were adopted, I do not think it would be material if the name of the architect were affixed to his design. If any of the designs had an equal number of votes then in that case (which would not often happen) such designs to be again put through the same ordeal, or left to the committee themselves. My desire in recommending this course to all public committees is this: that the candidates themselves, having so thoroughly studied the subject, are the best judges to decide as to the required desideratum for the particular building. — *John Burges Watson.* 30. *Duke Street, Manchester Square, London, June* 3. 1835.

The Birmingham Town Hall. (p. 16. and p. 237.) — I am not desirous of occupying any space in your valuable pages by my own affairs; but, as you have given publication (p. 237.), to a document written by my late partner, Mr. Hansom, charging me with deliberate and intentional injustice to him, and implying professional and moral dishonesty in the account offered to the world in p. 16., respecting the Birmingham Town Hall (of which account I acknowledge myself the author), I feel bound to put myself right morally before the public.

I am not sufficiently blinded in my own favour, or to Mr. Hansom's prejudice, to assert that my talents are equal to his. I have *voluntarily* submitted to his guidance with a most satisfactory preference of his designs to my own. It was upon this opinion of his abilities, and upon a similar opinion of his moral worth, that I originally proposed a partnership, which he embraced with avidity and enthusiasm. It is not for me to say whether he saw, or only fancied he saw, the elements, at least, of professional promise in me, which rendered me for that time, and for years afterwards, worthy of his association and esteem; that I will leave him to make public, if any thing need be said upon the subject. I disclaim all desire or intention, in anything I have said or written since our Town Hall misfortunes, to do him injustice, or to injure his present prospects, or future hopes, in any way. I am free from envy or jealousy towards him in all respects; and no one will be better pleased in seeing him in the highest position his ambition aims at, or his merits may qualify him to occupy.

It must be pretty well known, that the old Fishmongers' Hall, London, has been partly pulled down for some years; and that, although designs for a new hall were not, until recently, advertised for, it had been evident to architects that they would be wanted; and, no doubt, many young aspirants, like Mr. Hansom and myself, were on the look out for an opportunity of showing what the Fishmongers' Company ought to have. Two years before the time when designs were required for the Birmingham Town Hall, I wrote to Mr. Hansom, from London, on the subject (he being then at York), stating that I thought a temple mounted on an elevated basement would be a fine design for the Fishmongers' Hall, and would rise above the Thames and Thames Street with a proud outline, and would command considerable admiration. Mr. Hansom then sketched out the design (he sketches better than I can), and soon afterwards gave his sketch to me. I put it into the hands of my friend, Capt. Freeman (in whose possession it probably now is), for the purpose of introducing us to the Fishmongers' Company, when occasion might offer. That sketch was what the Birmingham Town Hall now is. I do not mean to assert that I could or should have turned the idea to that account which Mr. Hansom has done, in his application of it to the Birmingham Town Hall; but I wish to justify the statement made by me (p. 20.), that "the design was jointly produced by Messrs. Hansom and Welch, and originally intended for the Fishmongers' Hall;" at least I wish to give the reasons why that is my opinion.

Mr. Hansom asks why I had not the honesty to state that I was his competitor for the Birmingham Town Hall? Had I been discussing our comparative merits, instead of simply writing an account of the progress of the edifice now erected, I should have done so. Mr. Hansom is heartily welcome to publish the design he refers to if he so pleases: the world will see, no doubt, that it is greatly inferior to the present hall; but it claims the merit, if it has no other, that it would be easily built for 17,000*l.*, the sum proposed to be spent by the town, instead of more than 30,000*l.*, which the present structure has cost: and it would have saved the architects from bankruptcy, and the securities from injury, though it might not have left us so much *fame* to dispute about.

Let not Mr. Hansom again misunderstand me to mean or imply that he has any occasion for my mind to originate forms of magnificence. I can have no objection to bear unequivocal testimony, that, in my opinion, there is no architect in England who has greater fertility and boldness of conception than himself, or who can evince a greater superiority in detail; and, having, with all candour, recorded this testimony, I now betake myself to find my own position, which I hope to occupy with honour to myself, and with satisfaction to those who may be sufficiently indulgent to think favourably of my attempt. — *Edward Welch. Birmingham, May* 18. 1835.

The new Corn Exchange at Manchester. — Your correspondent, Mancunius, in p. 282., states that Mr. Lane's designs are about to be put into execution for the new Corn Exchange, Manchester; that numerous designs were received by the committee, reflecting high credit upon the respective artists; and that, after mature deliberation, the plans of Mr. Lane were adopted.

The front of Mr. Lane's design is said to consist of a central portico of six columns of the Ionic temple on the Ilyssus, and the work is called bold and classical. Now I ask what has the temple of Ilyssus to do with the Manchester Corn Exchange? Does this bold and classical design display any inventive genius in the architect? Does he show, by taking a design in this Ilissus order out of Stuart's *Athens*, and applying it to a purpose quite different from that it was designed for, that he is exercising the power he, as an architect, ought to possess; viz, that of inventing, and not copying? But this is the custom of the times in which we live; and architects are applauded when, in designing a domestic or commercial building, they can bring an Athenian temple before the classical judgment of the public! Now, Sir, if copying Athenian designs be a test, there must be a very great number of bold and classical buildings in this country; for we have the Ilissus order in John Street, Bedford Row; in Chadwick Street, Clerkenwell; in Trafalgar Square; in a hundred places in Regent Street; in most of the new churches built by the church commissioners; and, in short, in almost all the little entrances to private houses; in fact, London is Ilissus from the beginning to the end of the chapter. A Mr. Smith, or a Mr. Brown, cuts a leaf out of Stuart's *Athens*, and calls it a market-house or a town hall, a church or a theatre, a cottage or a palace, and sometimes even a stable, as the case may be; the same portico, the same order, is applied to each, and then the people cry, beautiful! classical! wonderful genius! This all originates in a want of expression of character in most of the buildings erected within the last half century; in want of reflection in our architects; and in a deficiency in the architectural knowledge of the public generally. And who are the persons to be principally blamed for this? I answer, the architects. They have the power in their own hands; they sit in judgment, and fall into the faults they condemn. But, as architectural knowledge becomes general, the public will be able to form an opinion of their own; they will leave off the general demand for what is called classical architecture, and they will begin to think that a Greek temple is not the most appropriate form for a Christian church, or a corn exchange. I would not be mistaken, when I say this, as an objector to the classic style, for I admire the Greek architecture as much as any lover of elegant architecture can; but the admiration excited by its beauty and elegance turns to disgust, when the building assumes a form totally at variance with its uses. The ancient architects invented the five orders; the architects of the middle ages invented Gothic architecture: why should not the architects of the nineteenth century invent a new and elegant architecture? In a great measure they are swayed by caprice. If you do not show columns that are known, all the classical phalanx revile you; for sinning against their laws, you are condemned and run down as an innovator, and your single voice is not heard, or, at least, not attended to, in the vast crowd: but if you build a church exactly like an Athenian temple, or in imitation of St. Martin's in the Fields, which is looked upon as the standard of excellence, you will be applauded, and will be permitted to mingle with the classical crowd thronging the road to fame. I have frequently tried to like St. Martin's Church, and to find those excellencies in it which have been so much talked about; but I have only been able to come to this conclusion, that at the time this church was built it was the only tolerable one near what is called the fashionable part of the town, and Gibbs was an architect who was much thought of at the time. This church thus was seen by the *beau monde*, and it became talked of and praised from time to time, till now it amounts almost to sacrilege to say anything against it. In the same way the New Post Office has been talked of and looked up to as the *beau ideal* of a public building. I may mention incidentally that I have seen a print of St. Martin's Church, showing an odd number of columns in the front of the portico; such was the rage for praise, that this trifling error was not much noticed.

I hope to see the day when architects will leave off copying temples so ill calculated for our architecture, and when they will follow the steps of Sir John Soane, in his boldness in throwing off the architectural shackles. Sir John has invented a style; with numerous faults, it is true, but it has been imitated, and it has not only been the foundation for reflection in other architects, but also the base of that fame which raises Sir John Soane above most of the architects of the present day. Sir John's architecture has many very glaring absurdities, but it has also many beauties.—*L. London, June* 1. 1835.

Mr. Kent's Dining-Room. (p. 280.) — In the section of Mr. Kent's dining-room, fig. 160., some trifling errors have crept in, and, as it is our wish to render this Magazine as perfect as possible in every particular, we have had

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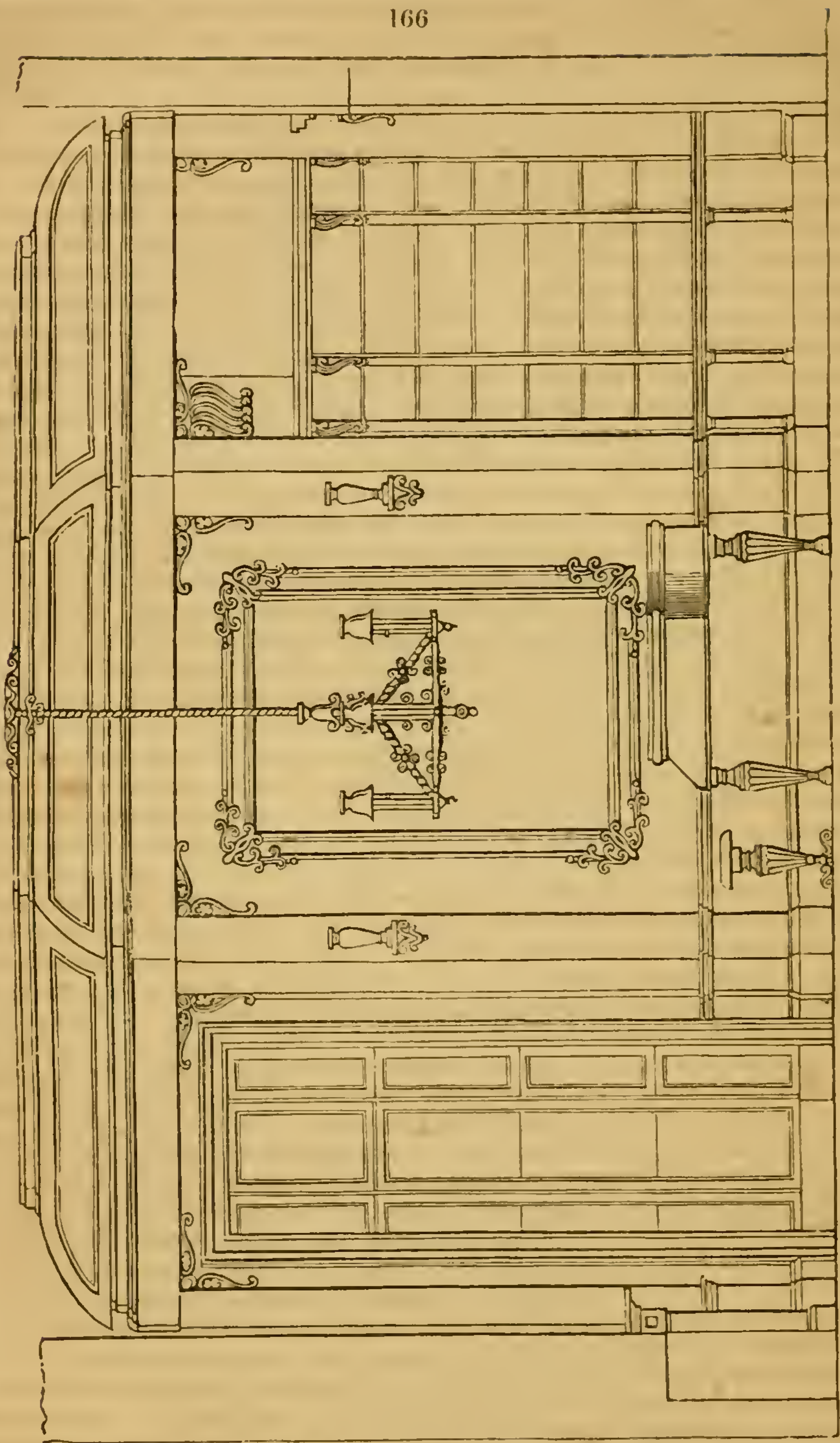

the corrections made in *fig.* 166., which the young architect is requested to compare with fig. 160. p. 280.

The Architectural Magazine for April and May. — The article by W. H. (p. 193.), as far as I could understand it, appears to me to consist of truisms, and may be styled, "common-place run mad." In the whole course of my life I never read anything like it. Candidus writes fluently and well. I suppose, from the tenor of his remarks, he is an amateur; but, who and what ever he be, I offer him my cordial testimony to his merits as a writer and a man of taste. In his observations on Palladio I fully concur. It is high time that the architectural arch-impostor should be hurled from the niche in the temple of Fame he has so long unworthily filled. — *P. Lancashire, May* 30. 1835.

Distribution of Premiums. — In the Domestic Notices (p. 352.) is an account of the distribution of premiums for the Exeter Markets, and it is certainly a strange coincidence that they are nearly all given to natives of Exeter, or its immediate vicinity, Messrs. Poynter and Bunning being the only strangers. I know all the others are what are termed "downalongs" about Bristol; that is, natives of that part of Devonshire. The other two may be natives also, but I do not know them to be so, and, therefore, presume that they are not. This will, perhaps, form some clue to the cause why the other architect's plans were returned to him in the manner described in the *Times* newspaper (see p. 352.). Mr. Inman, architect in Lincoln's Inn Fields, could give you some curious information as to these competitions of architects, in the case of Great Marlow church, in 1831. Mr. Britton can likewise let you into the secret of how the Fishmongers' Hall premiums were awarded by ——— to his own clerk, on condition of receiving a commission from him on the amount he received as architect of the edifice. The design was made in ———'s own office, and all the designs were sent to him, for his decision as to the three best. It is well known that the architect for St. Pancras church was appointed by the select vestry, before designs from other architects were advertised for; and, still later, the magistrates of Salop wanted designs for a county hall, &c., which, when delivered to them, were sent from Shrewsbury to London to ———, to decide upon ostensibly, but really for him to cull the best parts of each, in order to incorporate into one by himself. I myself sent designs there, which to this day have never been returned, although they were written for repeatedly. Such are a few of the benefits of competition among architects. Mr. Dymond can vouch for the truth of this Shrewsbury case. — *Wm. Ross, Architect, late of Bristol, but now of New York, U. S. February* 23. 1835.

Our correspondent, Mr. Ross, has authorised us to publish the above statement, with the names at length, instead of the blanks which we have substituted; but, fearing that this might involve us in law expenses, we have thought it prudent not to give the names. We shall preserve the original letter, however, and show it to any architect who may choose to call. — *Cond.*

Strength of Materials.—In answer to the remarks of Mr. Thorold (p. 191.), I have to confess that I was not aware there were any correct rules extant for calculating the strength of beams, when employed with the force of compression applied parallel to the length of the fibres, when the beam is of great length in comparison to its section, as in story posts, &c. Perhaps Mr. Thorold will be kind enough to state them, as my only object in bringing the subject under the notice of your readers was to obtain as much useful information on this important point as possible. I am aware that the late Mr. Tredgold has given an approximate rule for this purpose, but the principle on which it is founded has no substantial basis. It is merely founded on supposition as a matter of necessity, he having no experimental data.

My object is to ascertain the greatest weight which certain beams would carry without being injured; and then it would be a very easy matter to make sufficient allowances for any defects in the materials proposed to be employed. Would Mr. Thorold state his opinion as to where a beam overloaded would fracture, and what description of curve would be formed before such fracture would take place; as it is supposed by many that the swelling of the shafts of columns is in imitation of such curve.—*W. J. S. London, April* 5. 1835.

Mr. Mallet's Article on Metallic Trusses (p. 165.) has given me much pleasure and information. Such articles are exceedingly valuable, particularly to the architectural student and builder, as the clearness and perspicuity of the description and drawings are such as to enable any person conversant with the constructive and executive parts of building to apply them. The same defect, and arising from the same cause, as it appears to me, occurred to a girder in a large warehouse, erected under my direction some years ago, in the city of London. Each floor, in this case, contained from eight to ten girders, 14 in. square, having their ends inserted in the party walls. Care was taken to keep them away from the flues, and air was admitted to circulate freely round their ends; but, unfortunately, soon after it was found convenient by the tenant of the premises to have a flue carried up from his counting-house close to the end of one of the girders. Seven or eight years after this was done, I was informed that symptoms of the dry rot had made their appearance in one of the girders; and, upon cutting away the ceiling, &c., and exposing the timber, it was found decayed and covered with a dry-rot fungus, extending from 6 ft. to 8 ft. along the girder. I remember my fears, before I thought of the cause, induced me to examine the other girders, and there were between thirty and forty of them, but they were all sound; I, therefore, concluded the one that was decayed had been operated upon by the heat of the flue, or had been originally defective.

The observations made by Mr. Mallet on the state he found those girders in, the ends of which were in contact with the flues, brought this circumstance to my mind, and has induced me to make these remarks, hoping that his valuable information on the subject will make practical builders more careful (when they are called upon to build flues without the advice of the architect) not to carry them up close to any main timber; as, to my own knowledge, they too generally are at present.

The method adopted by Mr. Mallet in trussing up the girder by means of metallic trusses, as well as the double truss he employed to get up the partition and the roof, appear to me not only excellent in their construction, and admirably adapted to the purpose he had in view, but they will, I think, be found entirely new to most of your readers; and I sincerely hope that he will furnish you also with a description of the method he employed to draw up the ceiling of the library he speaks of. Such articles as these cannot fail to render your Magazine valuable to all parties connected with building. Hoping that I shall soon have the pleasure of studying another of Mr. Mallet's valuable practical papers, and wishing every success to your Magazine, I remain, &c. — *I. J. K.* *London, April,* 1835.

Hints on the Prevention of Vermin. (p. 179.)—In this article the section of a drain is given (fig. 99. p. 179.), which to my mind would lead astray rather than assist a tyro; and, if I take it right, your intention is to address information to persons of that class. Now, perfect drainage being so very essential a point as regards the health and comfort of the occupiers of a dwelling, I am of opinion that a "barrel drain," that is, one forming a complete circle, is the best and most sound and economical one that can possibly be used in any situation. In moderate sizes the rim or circumference should be a brick's width, or 4½ in. in thickness, and the whole rim should be set in cement, in addition to which the lower half of the inside should be rendered (plastered) with cement also. In a drain of this description, with a fall of 1½ in. in every length of 10 ft., no soil will remain; neither will any grease or filth adhere to the sides, as is the case with drains constructed with flat bottoms, thereby causing a source of aliment to the rats and vermin. As a further check, a vermin trap, similar to *fig.* 167., should, in every instance, be formed at the commencement of the drain, as near as possible to the entrance into a sewer, if that should be the outlet; and care should be taken that the dip-stone (*a*) should not touch the cover (*b*) within half an inch, in order that a current of air may pass to allow the water and soil to flow through the trap and drain. This latter point is that to which I wish to call your attention, as the article before referred to does not show this, or mention the subject of its construction. This trap should be formed with brick and cement, and should be thoroughly covered inside with cement, so as to make it completely watertight.

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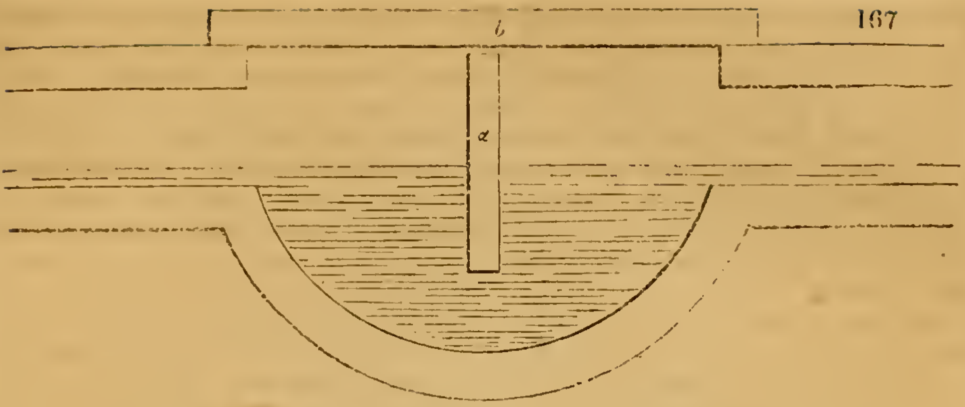

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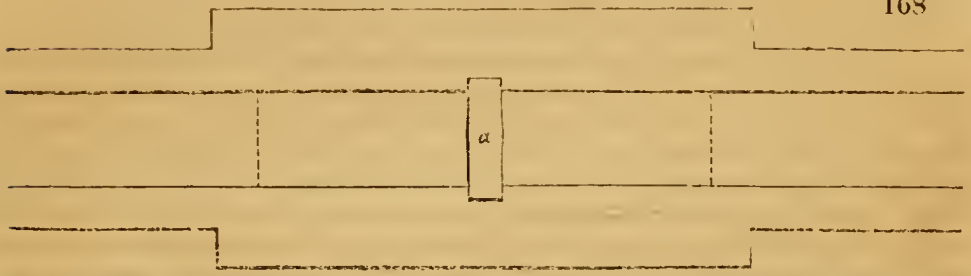

With the above description of drain and trap, the necessity for those great nuisances, cesspools, may be entirely obviated; thereby removing altogether from the interior a source of very great annoyance from offensive and injurious smells which so often prevail in houses of the metropolis. In the section (*fig.* 167.), the internal diameter of the drain is 9 in., and the thickness of the walls of the rim 4 in. The space between the dip-stone (*a*) and the bottom of the trap is also 9 in. The plan (*fig.* 168.) shows that the dip-stone (*a*) is fixed in the sides. — *A Junior. London, April* 21. 1835.

Hunter's Stone-planing Machine. (p. 283.)—It is somewhat singular that this invention, which I feel confident is calculated to diminish the cost of hewing all the stone in the country to one third of its present amount, should excite so little attention. If any credit be attached to the statement of the very respectable engineers who drew it up [see this statement in the *Mechanic's Magazine*, vol. xxiii. p. 73.], my opinion would be fully borne out; at least so far as the Arbroath stone is concerned. This stone is very well known to stand pretty high in the scale of hardness and difficulty of working, and yet not a single professional individual has thought it worth his while to inspect the operation, or to make an enquiry on the subject.

As the principle of this invention is equally applicable to a rotary motion, it may, I think, tend greatly to the advancement of architectural ornament. We have not as yet adopted it, in that way, as a manufacture; but I have a vase (modelled from a drawing in your *Encyclopædia of Architecture*), 20 in. high and 18 in. across the mouth, which was turned out of the solid block in the course of a few hours, the inside being hollowed out, leaving the cup 1 in. thick, and the whole with a smooth polished surface. This was done at a common turning lathe. With an apparatus properly fitted up for the purpose, I am confident that stone of similar hardness with the Arbroath pavement may be turned as fast, and nearly as economically, as wood.

The facility and cheapness with which the Arbroath stone can now be dressed, will, I think, soon render it useful for other purposes than those you mention. You have already, in some of your works (of which I have, from the first, been a constant reader), advised, I think, both stone floors and stone partitions in dwelling-houses, and for these I think it well adapted. Dressed to an equal thickness, and polished on both sides, for the latter purpose, it will not cost above 9*d.* per foot in London. It is already much used in Scotland as a substitute for marble. Where the work is well executed, and the best varnish used, it is preferable to scagliola, and not half the cost. But the great advantage which the Arbroath stone possesses over the Yorkshire flag is in its power of resisting damp and of drying quickly. In this it has but one rival, the Caithness, to which, however, it is in other respects superior. — *W. D. L. C. Arbroath, May* 16. 1835.

Art. IV. *Queries and Answers.*

Colours and Drawing Instruments. — In answer to Mr. Brown's enquiries (p. 48.), I have been endeavouring to ascertain among my professional friends, some of whom are of long standing, what colours and instruments are best for architects. I do not find, however, that any of them are acquainted with those colours, "between body and water colours," which Mr. Brown alludes to as being used by the London architects for tinting up elevations. I am inclined to think there is no such thing, farther than an opaque white, which, when mixed with the common water colours, may be used as a body colour; but this is seldom done, as there are many methods of removing the tinted surface from paper, and exposing a fresh one perfectly white, that will take colour again if requisite, almost as well as the original, and be without danger of discolouration, which the opaque white is always more or less liable to; as well as to being rubbed off after some time, if the drawing be not protected by a glass. If there is any other kind of colour at all similar to that Mr. Brown enquires after, it is not in general use, or even much known among the profession. The water colours I consider best for the use of architects are Newman's and Smith's. From the former maker I have had particularly good burnt and raw terra Sienna, Indian yellow, yellow ochre, Vandyke brown, and lake; and from the latter a deep cobalt, called French blue, which is very useful, blue-black, a mixed warm green, and sepia. The remaining colours I get from either, as I have observed no difference in their quality.

There are so many good drawing instrument makers in London, that it is hardly right to mention any one in particular. I have lately had from Elliot, Holborn, a set of instruments that work extremely well, especially the drawing pens, and the wheels for ruling the different kinds of dotted lines. Indeed, I never met with any instruments so much to my liking, and my friends, who have dealt at the same shop, appear equally well satisfied. Elliot's charges, also, are, I think, moderate. — *R. V. London, April,* 1835.

Fluted Corinthian Columns. — In many examples of the Corinthian column in this country, there is a convex moulding carried up to a certain height in the fluting of the column. Is this an invention of the modern architect, or is it to be found in any of our ancient examples? — *Tyro. Wilmington Square.*

Kyan's Mode of Preserving Timber. (p. 236.) — Dr. Birkbeck compares Mr. Kyan's process with that of tanning, and if the chemical combination were as complete in the case of timber as it is in that of leather, the comparison would hold good. I understand, however, that this is by no means the case; as a proof of which it may be stated, that carpenters who have worked up the prepared timber have been salivated. I should like very much to know what Dr. Birkbeck has to say in explanation of this fact; and I would ask the same question of Mr. Kyan, or, indeed, of any person who has attended to the subject. I was in hopes, with you, that this invention would have held good, and that in time it would have been followed by another, which would have rendered timber indestructible by fire. — *T. B. London, May* 30. 1835.

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ORIGINAL COMMUNICATIONS.

Art. I. *On Conveniency in Architecture.* By W. H.

In the art of architecture, convenience should be the first and governing study. From the lowest to the most exalted, every person who possesses a home values it for its convenience to him. In many respects the convenience of a building is a virtue of a passive kind, felt more in the repose it creates, than by any excitement of admiration; as a chief evidence of this quality consists in its being almost disregarded by the party who is really enjoying it. It can, indeed, have only a feeble claim as a merit, if it requires demonstration to exemplify it; for the enquiry, even if satisfactory, must have been originated by some doubt or distrust, which is alone enough to disturb the composure which perfect convenience would have preserved. It is not meant, by this argument, to imply that the production of the most manifest convenience is not the result of deep consideration; for such is undoubtedly the case. It is, however, considered in this study, as well as in many others, that the nearer perfection is arrived at, the less does there appear of the study and effort that effected it; and, consequently, criticism is altogether disarmed of any hostile weapons, when there is no defective point to attack. The want of conveniency, however, is not a thing to be overlooked. Though we may not consider a dwelling, ill suited for its occupant, to be, when compared with other evils, positively a misery, yet there are many who, although they flatter themselves that they possess much philosophy and endurance, will confess that such inconveniences are felt perpetually as the most harassing annoyances. There is no argument necessary to convince any one of this, nor does any palliative excuse meet with a welcome. The circumstance, indeed, that leads to the highest appreciation of convenience in a building, will be found to be the experience of its absence.

The convenience of plan is the first consideration. The distribution or arrangement which will accomplish the utmost possible accommodation, either for occupation, or whatever other purpose may be intended, is the directing principle to which every other object is apparently an after thought. The more private a house is, or the fewer the number of individuals residing in it, the greater is the attention required in the construction of those parts which are actually dwelt in, and the less upon the approaches of passages, stairs, and the like. Instance the case of a poor family residing altogether in one room: it is evident that the proper distribution of the entrance, light, and chimney of that room constitutes its convenience; while their being misplaced must considerably lessen the comforts of the inhabitants. It would not, however, be any advantage to approach this room by a large staircase and a vestibule, or any other magnificent provision of this kind; as this would be a sacrifice rather than a benefit, when a more limited approach would answer every purpose. In public buildings, and, in the same proportion that they are used by the public, from shops and offices of business, to churches, theatres, and other places of assembly, the approaches are, as points of convenience, of the greatest consequence. A shop (if it may be said to be public) is, in very numerous instances, in the front of a narrow house, and as much room for ingress and egress as can possibly be obtained is left before the counter for that purpose. The private part of the shop, that is, behind the counter, is consequently so narrow, that only two persons can pass at the same time. Besides this, there may be a private entrance equally narrow; and behind the shop a parlour so small, that to regard these parts abstractedly, there is every appearance of their being as inconveniently constructed as possible. Notwithstanding these detractions, a tradesman would avow such a place to be admirably adapted for its purposes; and would, no doubt, have wished to have equally constructed the private accommodations, had the house been twice as wide; for the reason that, as the main intention was to use it for the public, all other considerations were of inferior consequence. In edifices of greater publicity, as churches, theatres, courts of judicature, and places of assembly, the primary objects of hearing and seeing are decided chiefly by the form and size of the interior of the building, and the greater or less degree of convenience of the building must depend principally on the construction of this part, and on its fitness for the end in view; while, as great numbers of persons will enter and leave these buildings at the same time, there should also be the greatest facility in the approaches. This last, especially, is a point that demands much attention. In the mansions of the great we find galleries, corridors, lobbies, vestibules and anterooms, which are only so many additional approaches to the apartments; of which they thus become the chief conveniences. In the distribution of plan, the item of closets appears, at least with good intentions, although of very questionable results in many situations. In superior houses, they have been much excluded from principal apartments by articles of furniture, as sideboards and wardrobes, which answer the purpose better; but in houses built in a confined space, they are a matter of necessity. Ship-building might prove how much can be contrived in a small space, though it would be an adverse illustration of the subject of convenience.

The subject of internal altitude is also one which affects convenience. The height of apartments is often proportioned to the required architectural effect, and not by any actual necessity. In ordinary buildings, where there are many rooms of different dimensions on the same level, the height is not generally varied on account of that difference, as the inconvenience that would thus arise in construction would more than overbalance the motive for proportioning the height to the size, provided the discrepancy were not too offensive. Convenience only suggests that medium to be preserved which will at the same time insure sufficient warmth and ventilation.

Thirdly, and in succession, the convenience of the elevation arises for consideration. In this consists one of the greatest and most important objects in building, the proper distribution of light; as, with the exception of occasional roof-lights, it is all procured from the apertures of external walls; a source restricted only in its limits by the necessary provision for strength and durability, and, in some respects, by the display of architectural appearances. If the design for an elevation is rendered subservient to the convenience of an internal arrangement which is of irregular distribution, it is a denial to uniformity; and if it happens, as it often does, that uniformity is a desirable object, it then militates against convenience, instead of the architectural effect being suited to and guided by it. On the other hand, where convenience only is consulted, as in rear elevations, a motley figure is presented, which nothing but the absence from exposure can warrant; and it becomes a difficult task to adopt the purity and strictness of architectural rules, when the demands of convenience are of so formidable a character. Here, then, lies the study of an architect in this particular.

If he purchases the effect of an elevation at the expense of the interior, let the design be as successful as it may, let the beauty of the forms he exhibits be as happy as can be desired, let there be every skill and subterfuge displayed in remedying the defective light which he knows will exist; and yet, notwithstanding these merits, it will be scarcely creditable that the aptitude of the design for the first and principal intention, the accommodations of the building, should have been neglected. Again, if he, overawed by the claims of convenience, bit by bit impoverishes and reduces his design, he acknowledges defeat;

or, if he is induced to depart from what are considered absolute principles, he is so far culpable, that, in so doing, he deserts his art, and loses any claim to its profession. Numerous buildings of modern date might be noticed, where the attempt at architectural effect miserably deteriorates the comfort of the interior; and, on the contrary, there are many cases where internal convenience has evidently led to the infringement of good and admired precedents of exterior design. Nothing is more repulsive to the eye of an architect, nor a greater abuse of those proportions which are known to have the most effect upon the mind and feelings, than disregarding and altering the proper height of columns; and yet it is a point that frequently directly opposes convenience in the dimensions of apertures. It may be seen repeatedly, where two stories of windows occur in the height of one order of columns, that either the light is sacrificed to their proper and true proportion; or, if the light is sufficiently obtained, the columns are lengthened at pleasure, without any variation in the diameter by which they should be regulated. Perhaps these difficulties are only such to a student; for certainly there can be no better method of overcoming them, than by the examination of the productions of architects who have successfully treated them, and where they do not appear.

London, April 30. 1835.

Art. II. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. James Anderson.

(*Continued from* p. 257.)

Whoever has read the preceding portions of this article, will be easily satisfied that it would be an abuse of terms to entitle what has been effected respecting either of these modes of building, A SYSTEM OF ARCHITECTURE; for both the one and the other embrace such a very small part of the art of building, as to preclude them from any sort of claim to the title of a system. *A system of architecture*, in the strict and proper meaning of the phrase, ought to include all that is required for arranging, distributing, and erecting buildings *of every sort*, in the way that is best adapted to render each separate kind of building firm, commodious, and suitably elegant; in which all the parts shall be so arranged as to make each building so perfect in its kind as best to answer the purpose for which it was intended: a considerable diversity, therefore, must be allowed, not only in regard to the nature of the ornaments that may with propriety be there introduced; but also in regard to the form, the proportions, and the lightness or massiveness of the parts of which they severally consist.

According to this view of the subject, that which has been hitherto denominated the *Grecian* style of architecture, I would call the architecture of *a colonnade;* and, instead of the Gothic style of architecture, I would say, the architecture of *a church;* so that, admitting each of these two kinds of architecture to have their respective merits, I cannot see how they should be said to clash with each other, any more than the properties of a triangle can be said to derogate from the constituent qualities of the square. In short, admitting that we were to allow to each of these two exertions in the architectural line as full a degree of applause as its most sanguine admirers can desire, it by no means tends to derogate from the merits of the other; on the contrary, were a dozen other successful efforts to be made, that were each equally perfect in its kind as either of these two, and that had, of course, a tendency to render buildings different from these, and which were applicable to other purposes, perfect, and which could not possibly with the smallest propriety be executed in a style conformable to either of these two, each of these would only constitute a part of the grand body of architecture that ought to be clearly understood before we could with any degree of propriety pretend to establish a scientific *system of architecture*, or any thing that could with justice be said to approximate towards that name.

So far, however, has the influence of prejudice prevailed over the dictates of sound sense, that men have been found in every civilised nation of Europe, for several ages past, who have not only not been ashamed to appropriate to a very insignificant branch of the art of architecture the title of a *complete system* of the art; but have had the arrogance to claim an exclusive right to dictate to all others, and to condemn as barbarous and uncouth every particular in the practice of this art that did not accord with the rules which their imaginary SYSTEM allowed: and in this they persist, although they have seen that, during all that period of time, no person has ever been able to erect a structure, whether civil, religious, or military, that was any thing near so perfect in its kind as it might have been, which did not, of *necessity*, depart from many of those rules whose salutary influence these men wish to represent as universal. If this does not evince a bigotry similar in kind to that which for so many ages established the universal authority of the Roman pontiff, I do not know where to find a parallel to it. Even at the time in which I write, there are splendid treatises issuing from the press every day, under the title of *complete systems of architecture* (and these are tolerated), which pretend to teach nothing else than how to measure the parts, ascertain the proportions, and delineate the several members of the five orders of columns that the Greeks and Romans executed in their different public works, and the adjuncts necessarily connected with these!!!

As bigotry is ever blind, so the efforts of a bigot are calculated only to blindfold, not to enlighten those whom they affect to direct. Hence we find that the authors of such treatises, when they have measured with a hairbreadth accuracy the minutest parts of the particular object of their idolatrous veneration, and dignified it with the name of the perfection of perfections, I would say the perfection of Grecian architecture, which they cease not to proclaim the *acmé* of elegance, they find themselves forced at the same time to reject many other models of Grecian art equally authentic with that which they have chosen to consecrate, and which differ from it in some of their most essential parts. So feeble are their optics, that they can see no reason for such diversities; though the Greeks, who were a manly people, and thought and acted vigorously, perceived just cause for such deviations; and those in modern times, who dare to think after the same manner, see reason to admire the singular propriety of those aberrations which the little mind can never comprehend. A difference in regard to magnitude; a diversity in the distance of the principal point of view; a variation in respect to the elevation of site; a diversity in the idea that the building was intended to excite in the mind of the beholder, and a thousand other circumstances that will occur to an enlarged mind when it contemplates the effect that ought to be produced by a magnificent structure, will suggest the propriety, and even the necessity, of varying the form of the members and the distribution of the parts of a building, if it be expected to produce the fulness of effect that it is capable of exciting in the mind of the beholder. But these ideas, though they were evidently familiar to the Greeks, are altogether beyond the grasp of our feeble system-mongers. I have often amused myself with figuring in my mind the picture of contempt with which Pausanias would look down upon one of these grovellers, had he but glanced over any of their systems. I figure myself as observing the emotions of this judicious old Grecian as he perambulated the gardens of Kew! and at the same time reading the pompous description of them by the vainglorious author and erector of those gingerbread gewgaws, which he has held up to public view as models of perfection in the art of architecture; in regard to which those who have a desire to satisfy their curiosity ought to lose no time, as it is said that His Majesty, much to the credit of his taste, has an intention of speedily removing them. [Most of these buildings have been removed; but the one here described is still remaining.] *Specimen.* "The *temple of the sun* is situated in an open grove near the orangery, in the way to the physic gardens. Its figure is of the circular peripteros kind, but with an attic; and there is a particularity in the entablature, the hint of which is taken from one of the temples of Balbec. The order is Corinthian, the columns fluted, and the entablature fully enriched. Over each column in the frize are basso relievos representing lyres and sprigs of laurel; and round the upper part of the cell are suspended fruit and flowers. The inside of the cell forms a saloon richly finished and gilt. In the centre of its cove is represented the sun; and on the frize, in twelve compartments, surrounded with branches of laurel, are represented the signs of the zodiac in basso relievo. This building was erected in the year 1761." Who would believe that this splendid imitation of the magnificent structures of Balbec was a pitiful thing composed of wood and plaster; the columns scarcely ten feet high!

There is not, perhaps, to be found in the history of man a more whimsical predilection for an object of taste that has continued to have an influence for so long a time as this is, though many instances may be found equally absurd that were admired for several years. The straight avenues and formal parterres of our forefathers; their trees cut into the forms of birds and beasts, of pyramids, vases, and arcades; their formal ditch-like canals; their squirting fountains, and vomiting fishes, have had their day, and are now sunk into their merited disregard. The stiff angular Frenchified cut of the male-coat of the present hour, though it has undergone various modifications since the days of Molière, all of which we do not hesitate to call absurdly ludicrous, still radically keeps its ground; but this predilection is but of yesterday compared to that to which I now allude: yet there is no mode that has ever been in fashion which exhibits a greater number of abortive attempts to combine elegance with utility, than this system of architecture when it is attempted to be carried out of the walk for which it was invented, and for which purpose, perhaps alone, it is properly adapted, than what is called the Grecian style of architecture; which is, in all its principles and parts, so peculiarly stiff and uncomplying, that it refuses to adapt itself in any way to any other use whatever. Of the truth of this observation, we need only to open our eyes to obtain the fullest conviction; for, let us turn them how we will, we meet with incongruous attempts to combine the Grecian column with the necessary accommodations that are required in private habitations, in churches and other public buildings, in monuments, in screens, in furniture; and, wonderful to tell, even in bridges themselves; in scarcely one of which situations do I recollect to have seen it, where it did not evidently tend to mar the elegance of the structure that it was intended to adorn.

I am aware of the inefficacy of reasoning, or even the power of ridicule, to counteract the influence of fashion, while it is in the zenith of its power. I am conscious, that Hogarth's dancing-master vainly correcting the elegance of attitude of the Apollo Belvedere, has had no effect upon the general attachment to the fashion so irresistibly ridiculed; though it is impossible to deny its power in producing the fullest *conviction* in the mind of every one who attends to it; for which reason I do not intend to encounter windmills, or rouse up sleeping lions, in order to oppose the influence of this *mania;* yet I cannot see that any harm can result from a good-natured attempt to restore reason to her throne at the expense of prejudice and whim. The supporters of this system ought to recollect the good-natured maxim, that "every dog should have his day." They have had their day for a sufficient length of time; and therefore it is but fair that they should yield now to good sense, the rightful sovereign, in regard to matters of taste as of all other human concerns, who, though he has been often deposed for a time, has never yet resigned his claim to the supreme command; and has been again and again replaced, when those who had usurped his throne thought themselves so firmly seated in it that they looked down with disdain upon the first feeble attempts of the insignificant (as they thought) favourers of his cause.

Let it not, however, be imagined, that I mean to throw the smallest reflection on the Grecian colonnade, or the proportions and decorations that were invented by the Greeks for ornamenting that mode of architecture, both which I consider as excellent for the purposes for which they were contrived, and as indicating very superior powers in that justly celebrated people who invented it; nor can any one be more disposed than I am to admire the grandeur and elegance of those structures in which they were *thus* employed. It is not then the *use*, but the *abuse*, of this species of architecture of which I complain; and my object is rather to do justice to the inventors, by preventing their sublime ideas from being obscured by those degrading contrivances which their puerile imitators have fathered upon them, than to condemn them.

The colonnade, when applied to a superb building, simple and unbroken in all its parts, isolated from all others, and of moderate dimensions, produces at all times a noble and striking effect, that no person, who has a soul susceptible of impressions of this sort, can behold without a sensible and pleasing emotion. When viewed at a considerable distance, the amplitude of the shade gives a distinctness to the form and a boldness of relief, which, when combined with the unbroken uniformity of the wall, gives a luxuriant sweetness to the effect that is strongly impressive. As you approach nearer, the structure seems to grow in magnitude; and the bold projections of the cornice and entablature, now necessarily viewed from below, produces a rich grandeur of effect that no person who dares to own his feelings will venture to deny. This is the only situation in which this species of ornament can be displayed to the fullest advantage; and this is the very situation in which the inventors of it have chosen to exhibit it. No wonder that men who have seen it in this situation have admired it; but it is truly wonderful that those who have actually seen it thus exhibited (which I have never done) should not have been sensible, at the first glance, what a very different sensation is excited by those pitiful imitations of it that they see so profusely scattered throughout all the regions of Europe, and thus been induced to investigate the cause of this peculiarity. No such attempt have I ever met with. The only circumstance that I have found in their writings, that shows they must have felt the effect to which I allude, is, the unvarying admiration with which those who have had access to view the finest remains of antiquity talk of them, and the infinite disparity that they admit exists between them and those modern structures in which the same style of architecture has been employed, and the same proportions most scrupulously adhered to. Allow me now, when I endeavour to rescue this long degraded art from the obloquy to which it has been subjected from the injudicious conduct of its admirers, to point out one characteristic excellence that attaches to it, and that seems to have wholly escaped the notice of its warm panegyrists; although I have no doubt that, when it comes to be properly adverted to, it will be admitted, that it is this peculiarity which gives to it a more decided superiority above every other mode of building that has been ever exhibited in Europe, than any other circumstance. I here allude to the striking effect that a Grecian colonnade is adapted to produce when it is viewed as a *ruin*. If we could suppose that men, when they were contriving to erect a building that was to be constructed of the most durable materials they could procure, and which were obviously intended to stand as long as the art of man could effect, had in their eye the appearance which that building would exhibit when it fell at last into ruins, we should be compelled to allow to the Grecian artists a very high degree of excellence indeed; for I conceive it will be admitted, that no other structures that have hitherto been contrived by man (not the Gothic church itself excepted) can be compared with them in this respect. In the state of a ruin, all the characteristic defects of this style of building disappear, and those excellencies which tended to render it pleasing in the perfect building acquire additional powers that render it an object superlatively attractive. The bold projections now acquire additional power; and, suspended by the force of the cement (which age alone can give) and the counterpoises that accidents sometimes provide, they assume an appearance that is highly picturesque. The light, too, often seen between the yawning gaps of the tottering architrave above, gives to these massy shades an effect that is awfully sublime. Nor do I conceive, that the most partial admirers of any other kind of building would have the smallest hesitation to give the preference to these ruins over those of any other structures whatever.

In those innumerable attempts that have been made to foist the Grecian column into every architectural design in modern times, all the circumstances that contributed to render it such a striking ornament in ancient structures seem to have been entirely overlooked. The very windows, in modern times, are so indispensable for convenience, and so incompatible with the necessary simplicity of the colonnade, as to render every attempt to combine them altogether incongruous. The smallness of a private dwelling, the number and necessary disposition of these harsh points, and the extent of a public building, where numerous apartments are required, thus freckled all over, alike tend to render this kind of ornament inapplicable to them. From the prevailing idea, however, that no fine building could deserve any degree of approbation without columns, it is wonderful to observe the diversity and the awkwardness of those contrivances that have been adopted for the purpose of introducing them. Like Bayes, with his simile in the *Rehearsal*, they must have it here, though altogether out of its place, because a simile is here indispensable. It is painful to dwell upon these absurdities; I shall, therefore, glance as briefly as possible at a few of the least exceptionable structures of this kind in the neighbourhood of London, merely as illustrative of the foregoing positions.

With regard to private habitations, I pass by the Mansion House, because it is admitted pretty generally to be a very faulty specimen of Grecian architecture, and go to the India House in Leadenhall Street, which is, so far as I have been able to remark, the most faultless structure of the kind in London. In this instance, the hampered closeness of the situation is in favour of the building, because it prevents its most striking defects from being perceptible: you are almost under the columns before you can observe them; and the windows between these columns come to be then considered individually, and thus appear nothing incongruous; whereas if they had been seen at such a distance as to have been considered only as parts of a whole, they would have had the effect of appearing to be deep and harsh patches which tended to mar that soft and harmonising effect that is so much wanted in structures of this sort. This unpleasing effect of the windows between columns, is to be observed in innumerable colonnades of a similar kind that catch the eye from time to time as you travel through this country. In one respect, however, this colonnade is greatly superior to most that are to be found in this country: the columns rise from a moderate elevation only, and are not supported upon arcades, as if raised upon stilts, like those at Lord Spencer's house in the Green Park; which is one of the numerous devices that have been adopted for conjoining things that are naturally incongruous. The poverty of the two ends of the India House, freckled with so many patches, does not, in its particular situation, become conspicuous, as it must have done, had it been possible to see the building in any situation where it could have been considered as one whole.

This shall suffice as to private houses: let us now consider the effect of the column as applied to dwellings of larger extent, or royal palaces.

Inigo Jones, who, many persons assert, was the first architect that ever Britain produced, has left detailed plans and geometrical elevations of a palace of this sort, that was intended to have been built at Whitehall; from which, together with the specimen of it that was actually built, at the Banqueting Hall, a perfect idea may be formed of its general effect considered as an object of taste. There, the incongruity of the double row of pilasters that ran along the whole, hung in some places to a triple or quadruple range, and the puerility of their effect, which were evidently introduced with a view to reconcile irreconcileables; the still greater puerility of the clusters of diminutive columns stuck about the windows, which are a necessary consequence of that blind idolatry that I have so lately reprehended; the trifling effect of the colonnades that were occasionally introduced, so extremely disproportioned in size to the general magnitude of the whole pile of which they formed so small a part; and the low and heavy flatness of the general mass, are all such striking defects as cannot escape the notice of the most cursory observer, who has not his understanding blinded by prejudices imbibed from the school of fashion. If the palace of Windsor should be removed, and this palace, or that of Hampton Court, or any other palace constructed on similar principles, were put into its place, would there be a single unprejudiced person, who had ever seen the two, that would not deplore the change, as one that was more to be lamented, as an object of taste, than words could ever express? Yet there are many men who, in spite of this, will still maintain that the structure which all the world admires is barbarous, and the other the perfection of elegance as an object of taste!

As an instance of the effect of applying this style of architecture to public buildings, I shall merely glance at St. Paul's Church, London, the external appearance alone of which shall be the object of our present elucidation.

Sir Christopher Wren, who planned this church, was an architect, as is very generally known, who ranks among the first in respectability in this country; so that if neither he nor Inigo Jones could so manage this system of architecture, which they were both taught in their youth to consider as indispensable in every building in which superior elegance was aimed at, as to avoid evident incongruities, it will afford demonstrative evidence that the task is, at least, difficult, and a strong presumption that it is evidently impracticable.

In this structure, the double range of columns in front, one above the other, is an incongruity so strikingly obvious, that the most inattentive, unprejudiced beholder cannot fail to remark it as an absurdity of the most glaring sort, and which no man of talents and taste could have fallen into, had not his mind been gradually familiarised to such things by a course of studies calculated to mislead the judgment and pervert the taste. I take no notice of other blemishes in the west front, because my intention is not so much to criticise the artist, as to lead to a right judgment respecting the principles of the art. In this view, I must call the attention once more to the Grecian columns introduced so very much out of their place, still accompanied with their entablature and cornice, near the top of the west turrets, an evident imitation, and a clumsy one it must be owned, of the light and appropriate pinnacles applied for similar purposes on the top of Gothic spires and monumental turrets.

The double row of pilasters stuck upon the walls all round the other parts of the building, with the heavy though unmeaning bands of architraves, cornices, and basements, enclosing the (double-tressured) windows, so nearly resemble the broad and weighty gold lace on the coat of His Majesty's servants surrounding their pocket-holes (a fashion now antiquated and deemed absurd), that it is impossible not to think of them together, and to put this obvious question, What is the reason why one mode does not go out of fashion as well as the other? The central dome, too, in order that the never-ending column may be again introduced, is deprived of that plain rotundity which alone could give grace to that simple form (a fine example of which, though on a much smaller scale, is to be seen in the back part of the rotunda of the Register Office in Edinburgh), and is dug out into deep and disgusting cavities, that in many respects (regularity alone excepted) resemble the cavities eaten by some kinds of insects into the very heart of trees. Assuredly no one will say that, in that position, these columns are calculated to produce any thing like the idea of simple magnificence which the Grecian colonnade, in its original appropriation, was so happily adapted to excite. But even here we have not done: above the top of the dome the cupola rises, still supported by its pygmy pillars. Pillars seem so entirely to occupy the mind of these artists, that they can think of nothing else. It indicates a poverty of ideas that would be wonderful in men of talents, could any thing be wonderful respecting the human mind when it is blinded by prejudice. It reminds me of a visit that I paid many years ago to the house of a nobleman who had been then recently exalted to the peerage, whose cranium had been so completely filled with coronets, as to give no room for any thing else, like that of our artists with their columns. His gates were surmounted with coronets; a coronet rose above the top of the weathercock; his doors, his windows, the shields of his locks, were adorned with coronets; the balustrades of the staircase, the handles of his bells, the knobs of his fire-irons, were fashioned into coronets; coronets were the finishing ornaments of his mirrors; the backs of his chairs were worked into coronets; and the roofs of his beds were surmounted by massy crowns: in short, you could look no way, but coronets were the first objects that caught your eye; and, that nothing might be wanting, a coronet was found in the bottom of his porcelain *pots de chambre*. Were I to search the world around, I could not find such a perfect parallel to our artists as this affords. It is one of the many instances that we meet with, well calculated to humble the pride of man: for while, under one point of view, he seems to be nearly equal with superior intelligences, in another, he claims kindred with the merest animals that inhabit the earth. The creature of folly, caprice, and whim, he is governed by fashions and enslaved by prejudices; and he has too often occasion to feel, that that reason on which he prides himself so much, instead of being an unerring guide, as he vainly boasts, is little else than a phantom, which he thinks he follows when he is, in fact, busied with other pursuits.

I need not extend these reflections to the puerile effects that result from the misapplication of Grecian columns as they are exhibited in funeral monuments that are shocking to every beholder; in ornamental screens, a striking example of which is wofully exhibited *in terrorem* in Pall-Mall; in bridges, in furniture, in candlesticks (I wonder that they have never attempted it in candles), and innumerable other devices that catch our eye whichever way we turn it; for the incongruity of these, after what has been said, will be sufficiently obvious; I, therefore, willingly take leave of this disgusting part of our disquisition; and shall consider, in a subsequent number, the effects of the Gothic system of architecture, as it has been called, considered as an object of taste; for hitherto we have only considered its various devices as adapted to utility and convenient accommodation.

ART. III. *A few Observations on the reviving Taste for Pointed Architecture, with an illustrated Description of a Chapel just erected at Bude Haven, under the Direction of the Author.* By GEORGE WIGHTWICK, Esq., Architect,

THOUGH a survey of the numerous churches and chapels, in the pointed styles, lately completed, or now erecting, in various parts of the kingdom, be not unmixed with matter for the censure of severe criticism, the aggregate report unquestionably affords a substantial cause for warm congratulation. The rise of public partiality has been, perhaps, rather more sudden and pervading than the correspondent growth of judgment; and, of the many examples, which, with an almost magical rapidity, have started up around us, there are consequently some which leave us rather to applaud the "attempt" than the "deed." Still, the failure is but comparative: for, though such examples as we could name are failures, when estimated by the scrupulous eye of professional observation; they are, with equal truth, triumphantly superior to the insipid formalities which preceded them, and are pleasing evidences of the fact, that, if a perfect taste be yet unformed, a vigorous feeling is already firmly established.

Architectural excellence depends not more on professional skill than on public appreciation; not more on the existence of accomplished architects, than on the ability of employers to distinguish between the regularly educated professor, and him whose credentials, if asked for, might be found wanting. No buildings are without faults; but it is possible to err with a grace; and the well-informed eye will immediately distinguish the defects of professorship from the deficiencies of pretension. A church or chapel shall be defective in arrangement, and unpleasing even in the general effect of its mass; but there shall be a close relationship between all the parts, a continuity of style and propriety of decoration, to prove it the work of a mind accomplished in the knowledge of standard example, and in the distinct classification of the particular features that belong to the particular style adopted. Another building of similar purpose shall be most convenient in arrangement, and pleasing in general distant effect, while a discordancy of detail shall offend throughout. The simplest lancet arch of the earliest pointed shall be brought into juxtaposition with the flat and most decorated arch of the latest Tudor. The uncrocketed pinnacles of Beverley Minster shall rise on each side a great west window of the rich perpendicular period; and between a pair of stone jambs, massive and plain, shall flourish a meagre display of wooden tracery. True, the church is still a church, and serves every purpose of convenience, though every period, from the crusades to the passing of the reform bill, is there represented in most admired disorder: and thus, a sermon might be still a sermon, and serve every purpose of Christianity, though every rule of grammatical concord should be violated in its composition. Why should syntax be positively demanded in a clergyman, when the church in which he preaches is permitted to be a compendium of disagreements and "false quantities?"

That such inconsistencies are found, more or less, in all our celebrated cathedrals and old churches, is as true as that various metals are to be sometimes found in one mine. But the truth is, that what are called the inconsistencies of our ancient church architecture are no inconsistencies at all: they are evidences to the irrepressible exercise of that ever active invention which their different architects successively displayed, to that rich possession of elementary power, with which their minds were as pregnant as the earth with her riches. They are so many important chapters in the palpable history of Gothic art, beautifully accordant, if we regard them as upward gradations in the progress of imagination; but not again to be combined in such specimens of modern art, as seek to illustrate the perfection of judgment. Should an architect be commissioned to add to an old church, let him, if he can (and as his ancestors did), at once accredit his own originality and honour his foregoer; but, when he has to erect an entirely new edifice, and that, perhaps, within the space of a few months, let him not "basely epitomise" the gradually progressive varieties of as many centuries. Above all, let him not build his history backwards; putting Cardinal Wolsey at the bottom, and Richard the First at the top: but let the lion's heart be the foundation stone, and the cardinal's hat his weathercock.

The ages which saw our cathedrals arise were those of elementary supply. The present is an age of selection and of adaptation; and it must rest its greatness on the perfect character of its combinations. Unable to improve upon the splendid individualities of the past, we are left to classify and re-employ them within outlines of improved grace, and with as strict a regard as may be to the laws of perfect harmony. Though the several varieties of Gothic art be not so reducible to rule as the Greek orders, they are still as distinctly separable, and are not to be commingled in their details, however, on certain occasions they may be otherwise conjoined, or, rather, annexed. A whole may be composed of two or more parts, each part being as obviously individualised as though it were itself a separate whole. Should there be any positive wish or reason for a variety of style, in such a case only as we have just mentioned can it be admitted; nor is it even then to be allowed except on the score of what may be termed poetical toleration. Thus, while the accomplished Mr. Inwood would have been incapable of interfering with the pure Ionic of his portico to St. Pancras Church, he has emulated the Caryatidal feature of the Erechtheion as admissible to his vestry-room. Again, in Mr. Picton's charming design for his small church, at Hoylake in Cheshire (see Vol. I. p. 288.), we find the chancel erected in the early pointed, while the body of the church is in the Anglo-Norman style. Such intentional digressions as the two under consideration are very different from the pervading incongruities of the faulty specimens before alluded to, and may justly be regarded in the same light as the poetical episode, harmoniously ramifying from the main subject, but separable from it.

Not vauntingly to substantiate a right of judgment, but rather honestly to open himself to that censure he has exercised upon others, does the author of these remarks put forth his designs for a chapel lately erected at Bude Haven, a thriving watering-place and sea-port, on the majestic coast of Cornwall, about 20 miles N.W. of Launceston. The entire cost of its erection has been defrayed solely by Sir Thomas Dyke Acland Bart., who, stimulated by the importance of its heaven-ward purpose, has with equal cheerfulness and liberality encountered a charge far exceeding what is usually expended on similar buildings of a like capacity, and which was chiefly augmented by the extravagant outlay necessary to import the stone with which it is built, a kind of porphyry, from the quarries of Trerice.

Fig. 169. is the plan of the chapel. *a*, porch; *b*, ailes; *c*, a vestry-room, corresponding with the porch; *d*, font; *e*, reading-desk and clerk's desk by the side; *f*, pulpit; *g*, altar table; *h*, choir; *i*, stall seats, raised 16 in. above the floor of the chapel; and *j*, private sittings; the remaining seats being free. The private seats amount to about 150; free seats, 170; total, 320.

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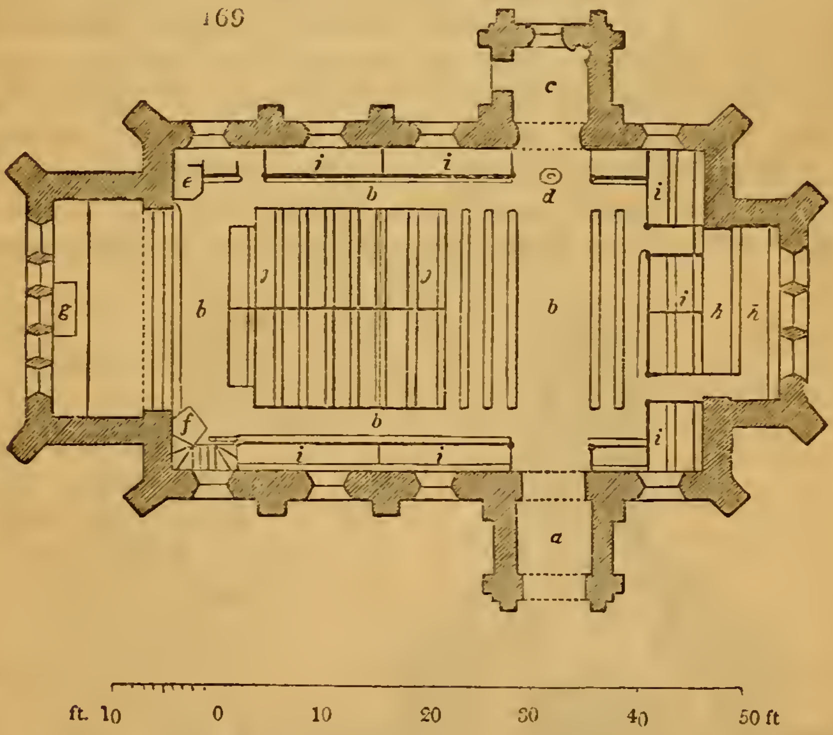

Fig. 170. Elevation of the north or entrance front. It will be observed, that the belfry is formed after the old monastic fashion of carrying up a portion of the wall, finishing the same with a gable capping, and piercing it with two apertures, as shown by the elevation, *fig.* 171.

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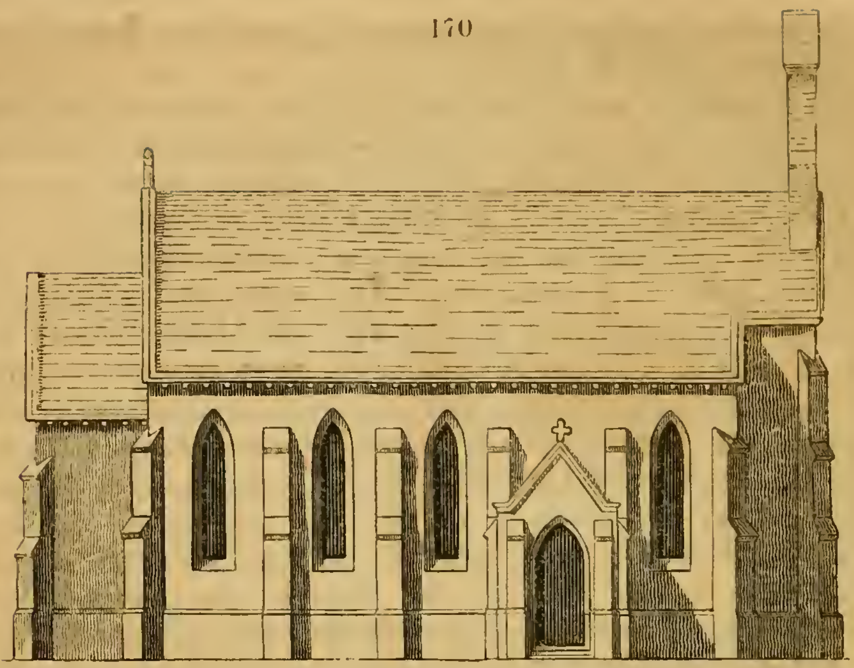

Fig. 172. is the elevation of the east end showing the five-light window of the chancel projection. In consequence of the communion tablets within, the openings of the window are shorter than good proportion would seem to demand; the mullions, therefore, are carried below the glazed part, both within and without the chancel; the intervals outside being filled in with plain stonework, and those inside with the communion tablets. A cross surmounts the east gable of the main chapel.

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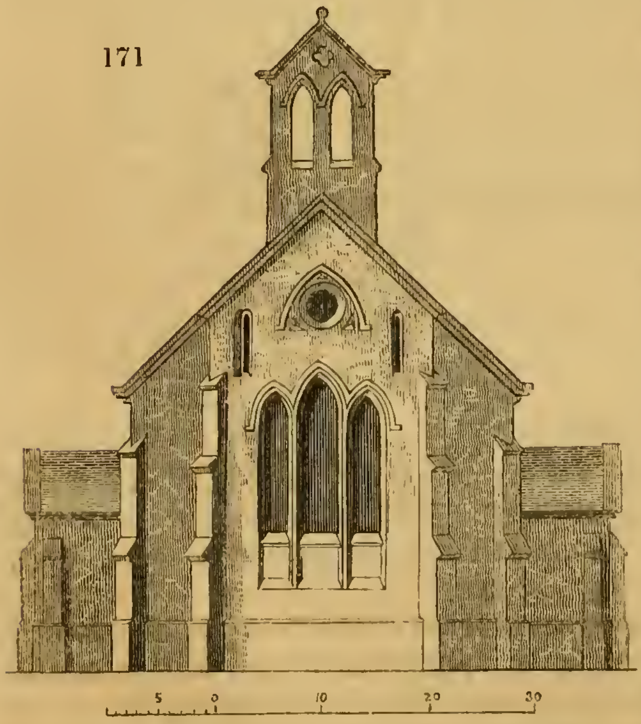

Fig. 171. is the elevation of the west front, showing the three-light window of the choir, the profiles of the porch and vestry, and the belfry. To get rid of the dissonant character of the circular clock opening, a pointed label-head is thrown over it, and it is thus made to harmonise with the rest of the composition.

The section *fig.* 173. shows a truss of the roof, which, from the straining piece downwards, is open to view. It is in principle a simple queen-post roof, aided by bracket

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pieces resting on corbels. The remaining framework contributes to the general stiffness of the whole, and, of course, greatly adds to its beauty. Every edge is run with a Gothic moulding, and a bold hexagonal drop hangs under every queen-post. The bays of the ceiling have a bold cornice running from tie-beam to tie-beam, and moulded strings, also, to answer every vertical quartering for the truss. The chancel ceiling, though smaller and lower, is in form like that of the main chapel, with vertical strings crossing the others at right angles, and having oak leaf bosses over the intersections. The dotted lines show the arched openings between the main chapel and the chancel and choir

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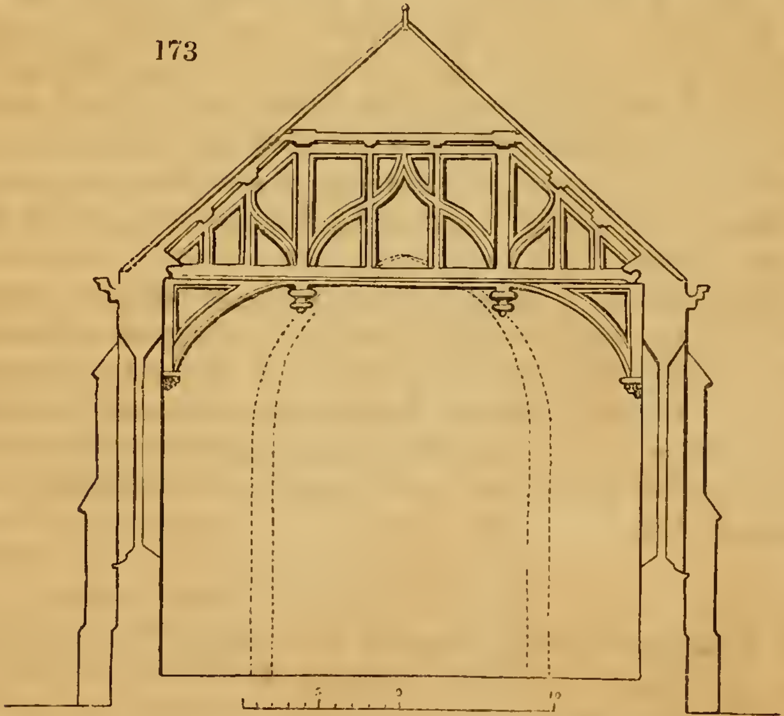

respectively; the larger being the chancel opening. The ceiling of the choir is concentric with the arch which opens into it.

The capacity, general form, and arrangements of this chapel being decided on, the next point was to settle the theme on which taste was to proceed; and, the early pointed arch being agreed upon, it became the architect's particular care to carry on his design throughout with constant reference to his text. To what extent he has succeeded in the great body of the architecture, the accompanying illustrations will, in a great measure, show. To have given the fittings would have involved too great an expense for engravings. It may, therefore, suffice to state that, in all the paneling of the joinery, the given theme proclaims itself. The altar table is of wainscot, in imitation of the altar tomb; its face exhibiting a series of arches, with oak leaves in their sunk spandrils, and a fascia above enriched with the words, "Do this in remembrance of Me," in raised letters of the old English character. The pulpit is pentagonal, paneled, as the altar table, with a cavetto cornice, enriched with rosettes of oak leaves, and resting on a bold foliated corbel. The same oak leaf ornaments distinguish the front of the reading-desk and breastwork of the choir. The pews in the body of the chapel have no doors, but are otherwise enclosed. The stall ranges along the sides and across the west end of the chapel are enclosed with plain pointed paneling, having octangular standards at the angles, surmounted by finials corresponding with the drops of the roof. The font is octagonal, of Plymouth marble, with pointed panels sunk in each face of its basin and stem, and having the oak leaf and acorn in bold relief round the lower part of the basin. It is but justice to state, finally, that the entire works have been most accurately and substantially executed by Mr. Burgoyne of Plymouth, builder; one of that most important class, without whose executive skill and respect for professional acquirement, the designs of the architect (to quote from memory the words of Sir John Soane) "would be but so much waste paper."

Perhaps another "final" word may be allowed the author, who cannot conscientiously dismiss the subject of ecclesiastical architecture, without paying his tribute of respect to his accomplished and indefatigable old friend John Britton, from whose works he has in a great measure derived his great love for, and his little knowledge of, Gothic and pointed architecture.

Plymouth, Feb. 16. 1835.

Art. IV. *On the Dwelling-Rooms of a House.* By I. J. Kent, Esq., Architect.

(*Continued from* p. 281.)

The Drawingroom. — In town houses this room is usually on the first floor; that is, on the floor which is immediately over the ground or entrance floor of the house. It is a common practice to appropriate all the rooms on this floor as drawing-rooms: when so used, the whole suite is generally decorated and furnished in the same style. In the country the drawingroom, as well as most of the other sitting-rooms, is on the ground floor.

The drawingroom, or withdrawing room, so called from its being the room to which the lady of the house withdraws after dinner with her company, is likewise the room into which visitors are introduced, and where they assemble previously to dinner. It is also particularly devoted to the reception of company in evening parties, routs, and soirées.

Here a lady has full scope for displaying her taste, this room being, if I may say so, her own room. All men are visitors in the drawingroom, even the husband and the brother: every lady knows this, and is never so much herself as when in this room, or in her boudoir. When there are two or three rooms on the floor, one of them is frequently used as a music-room. In houses belonging to the nobility, or to wealthy commoners, the music-room is separate, differing in style and character, both in its decoration and furniture.

The size of the drawingroom in town houses necessarily depends upon the rate or class of the house; those of the second rate being about 18 ft. long by 15 ft. wide in front, about 15 ft. long by 11 ft. wide at back, and 11 ft. to 12 ft. high, and communicating with each other by folding doors: but in houses of the first rate, which houses may be built of any size and height you please, almost without restriction, except by the act of parliament as respects their walls, the drawingrooms are not unfrequently from 30 ft. to 40 ft. long, from 20 ft. to 25 ft. wide, and from 13 ft. to 18 ft. high.

It should always be part of the arrangement of a drawingroom, particularly in houses belonging to persons of distinction, that it be lofty; for the principal use of this apartment being to receive large assemblies of persons at night, when lighted up, as it commonly is, by lamps suspended from the ceiling, the pure air becomes quickly exhausted; and your visitors, especially those in a delicate state of health, suffer much by breathing so noxious an atmosphere. It is, therefore, of great importance, where these rooms are intended for the purpose of receiving such large parties as are now common among the wealthy part of the community, that they be effectually ventilated; and this may be done at a comparatively small expense, when the house is being built, by having large tubes or tin pipes fixed between the joists, and communicating with the open air, and having openings between the leaves of the flowers on the ceiling, through which the heated air may escape into these tubes, and thus be carried off; and by having the same kind of air-pipes carried under the floor, to give admission to fresh air from without, the quantity of which may be regulated by gratings and valves, concealed in the skirting, or in some other more convenient parts of the room.

The style of decoration employed in the drawingroom should be of the most cheerful kind, elegant, and even splendid, but chaste, and governed by good taste: the only room that will admit of a more brilliant style of finishing than the drawingroom is the ball-room, or, perhaps, the lady's boudoir.

The floor of the drawingroom should be of the very best description; and, if of deal, it should be of the kind termed battens, listed free from sap. This is done by sawing off the edges, by which process the batten is reduced from its usual width of 7 in., to 4 in., or 5 in., leaving only the heart of the wood. This floor, when of a very superior kind, is doweled, so that the surface may be perfectly smooth, and without a nail-hole. When this room is finished in the style of Elizabeth, or of Louis XIV., the floor should be of oak or wainscot, with the sides bordered and parquetted, if the expense be not an object. As the furniture in these rooms is generally of an expensive kind, and liable to injury by dust, the skirting, or plinth, should be tongued into the floor: when these precautions are taken, and the timbers under the floor-boards are pugged, no dust can get through to spoil the carpet and other furniture.

If the rooms are large and lofty, there should be a dado round them; but in smaller rooms, of only a moderate height, a wide moulded plinth, of from 12 to 15 in. high, is more generally used.

When there is a dado, it should be of the height a pedestal would be, if an order of architecture were employed; so that if the whole order were 14 ft. high, the dado would be about 2 ft. 9 in; if only 12 ft. 6 in. high, the dado would be 2 ft. 6 in., or about one fifth the height of the room from the floor to the top of the cornice. This is the case in the drawingrooms of the new palace at Pimlico, round which there is a peristyle of scagliola columns, of a most grand and imposing character.

The only orders that can be employed with propriety in a drawingroom are the Corinthian and composite.

The character of the enrichments on the ceiling and cornice should be light and pleasing; the compartments, when the ceiling is paneled, should not be so deeply recessed as in the dining-room or library; and the ornaments should be of a gayer and more fanciful description: but good taste alone can decide as to the extent to which these enrichments may be carried.

A cove, springing from the top of the cornice, when there is sufficient height, will add much to the dignity of the room; this may likewise be enriched by paneling, with carved mouldings and pateræ or festoons, or by paintings of pleasing subjects, or wreaths of flowers.

The principal objection to most of the enrichments used is, their want of sufficient relief: so much is this frequently the case, that where the enrichments are not thrown out by difference of colour or gilding, the effect is almost lost when seen on a lofty ceiling. The enrichments that form or surround the several compartments should be well marked and in bold relief. If it be thought necessary to ornament the panels, this may be done by the artist's pencil.

When gilding is employed, it should be used sparingly; for, if overdone, that which would have been elegant will become gaudy and vulgar. If the enrichment to be gilded is large, the prominent parts only should be etched with gold; but of the plain mouldings, the smaller ones, or those only that will have a good effect, and will mark more distinctly the form of the general mouldings, should be selected for gilding.

When the ceiling of the drawingroom is plain, the colour should harmonise with the prevailing tint of the room, and the cornice be relieved by other tints of the same colour, deeper and lighter than that of the ceiling. When the room is low, an acroter, or margin, with light and shade lines, is often run round the ceiling, to make the room appear higher than it really is.

The walls are occasionally painted with some warm tint in distemper, or in turpentine colours of one shade; with margins, and light and shade lines, to form the sides of the rooms into panels; frequently having ornaments of flowers, foliage, &c., painted in relief, in the angles of each panel, and gold mouldings under the cornice and on the dado, and up the four internal angles of the room; with a smaller moulding round the doors, windows, and chimneypieces. A small gold moulding is likewise sometimes put to the internal edge of the margin round the panels: a more general style is, to cover the walls with a rich-patterned satin paper; the more expensive kinds being highly relieved with gold, or some inferior metal. This kind of paper is, in a few instances, in good taste, but more frequently in bad. A flock paper, with or without a pattern, relieved with gold, may be adopted; or a plain flock may be laid on the walls to any shade of colour the employer may approve, giving them the appearance of being covered with a beautiful cloth without a seam: this is often rich and pleasing in its effect; but I must protest against the deep crimson colour, so frequently seen on the walls of the drawingroom, it kills the effect of the furniture, destroys the light, gay, and cheerful character of the room, and leaves all the recesses, and other parts of it not strongly and powerfully lighted up, dull and gloomy: light, warm, sunny tints are much more suitable; or even green, which it has become the fashion to use so much again of late, is far better than such a deep heavy colour as crimson.

When the walls are hung with flock papers, gold mouldings are almost invariably used; but with satin papers, a patterned border in flock, designed to suit the paper, is as frequently put round as gold mouldings.

In drawingrooms of a more stately kind, I would hang the walls with figured silk, or with rich damasked or striped satin; when so hung, the walls should be battened and lined with deal boarding first, on which canvass should be strained, and then papered, so as to prevent as much as possible all risk of stains from damp or dust, which would very soon destroy the beauty of the satin.

There are many ways of painting these rooms now in fashion; some are done the prevailing tint of the paper, making the styles to the doors, windows, &c., a dark tint, the panels a lighter, and the mouldings either darker still, or with a French white, or very pale tint of the same colour; other rooms are painted in imitation of some choice wood, as satin wood, wainscot, hair wood, maple, or rose wood. Of all these, the most appropriate is the satin or maple wood, which, when highly varnished, has a rich and pleasing effect. The rage for painting the mouldings in a different kind of wood from the general graining, such as cross-banded, or black, or gold, is over: it was very expensive and, I think, not in good taste.

The most chaste and appropriate style in which a drawing-room can be painted is, in my opinion, a French white, with gold mouldings; and, where the mouldings are carved, the carved parts slightly etched with gold. To give additional elegance, the panels of the shutters may be filled in with looking-glass.

The doors to this room, where the expense is no impediment, should be of mahogany or maple wood, veneered with choice veneers, and highly French polished; they should be hung with strong rising brass hinges, so that they may easily be taken off, and put on again, without taking the screws out of the hinges.

The locks should be mortised into the doors. Where the brass handles and furniture are not considered handsome enough, cut glass knobs, or turned or carved hard wood, or ivory knobs, for the locks and shutter latches may be used.

The sashes, when required to be superior to painted deal, should be of a light-coloured mahogany; the bottom rail having a groove in it to receive a metal bar, which is to be let into the oak sill of the sash-frame. The beads should be tongued into the sash-frame all round, and the sash fastenings should be effective in drawing the sashes firmly together.

The shutters should be splayed, to give a freer admission of light into the room. They should not reach quite up to the soffit, and they should be kept securely in their boxings during the day time by shutter latches. When the windows open on to a lead flat, or gallery, the sashes or casements are usually hung with hinges, folding to act as doors; but great care is required when windows are so hung, to prevent the water from finding its way in; the best contrivance I have met with (though a very expensive one) was devised by Mr. Barron of Wells Street. Some of the contributors to this Magazine will, perhaps, inform you of a cheaper and equally good mode, for, although I found this very effective, it was very costly. The sashes in all rooms of a superior kind, but more especially those of the drawingroom, should be glazed with polished plate glass.

The fireplace should be ample in its size, and sufficient for its purpose, viz., that of expelling all damp, and effectually warming the air in the room. Where the room is 30 ft. or more in length, there should be two fireplaces, either on the same side of the room, or one at each end, as circumstances may indicate: the opening I prefer being rather low in proportion, than high, so as to cause greater heat to be thrown into the room.

The chimneypiece in a modern drawingroom must be of statuary marble, the purer in its whiteness, and the freer from veins or stains the better: this, in a moderate way, is usually moulded, with, perhaps, a carved tablet in the centre of the frieze, and carved caps or blocks on the pilasters; but in more stately rooms the design should be in accordance with the rest of the apartment. The carvings should consist of fanciful and graceful groups of flowers, foliage or fruits, or figures such as are imported from Italy; or it may embody some interesting and agreeable episode connected with the history of the family, in which figures of animal life may be introduced in bold relief. Whatever it may be, the subject should call forth in the beholder agreeable and pleasing emotions.

The stove and fender for the drawingroom should be of polished steel, with the projecting parts richly cut, and set in marble. The design must depend upon the style of decoration in which the room is fitted up; for to put a stove composed of Gothic arches, pillars, and ornaments in a room otherwise Grecian or Italian in its finishing and furniture, would be as repugnant to good taste as to see a Doric or Corinthian portico in front of a fine old Gothic church or chapel. Indeed, I know of no fact more convincing, that a better feeling and a purer taste for art exists at the present time, among the educated portions of society, than did in the days of those great men, Sir Christopher Wren and Inigo Jones, than that no architect of eminence would now dream of committing such an anachronism as I have alluded to, or would so lend himself to the bad taste of his employers: and yet, at Oxford, in that city of splendid buildings, where, from its learning and knowledge, we might have hoped better things, and at Nottingham church, and other places, this error in taste is perpetrated; but I hope the time will come when these excrescences to some of the finest of our old Gothic buildings will be removed, and be replaced by porches and other decorations corresponding with the architecture of the building. Such perversion of good taste cannot again happen, unless we imagine the intelligence now spreading so rapidly among all classes of society should receive such a check as to make them again the uneducated beings that they were in those days when these solecisms were committed; for, although this country never, perhaps, possessed more gifted and talented individuals than that age produced, yet the people were uneducated, and they had not emerged from that state of mental darkness in which they had been kept by a crafty priesthood; but, thanks to the ardent spirits which have since sprung up, the natural results of education are now showing themselves in the outpouring of a more generally diffused humanity: there is a more kindly feeling for human nature, and a more sincere desire to give happiness to the mass of society, at present abroad, than ever yet existed in this country. The cultivation of the female intellect is another great cause of the spread of knowledge and happiness; it is silently but steadily proceeding, and will ultimately raise women to the rank in society they deserve, and which nothing but the selfishness or ignorance of man has hitherto prevented them from attaining. They ought to be the companions and the advisers of man, and not his toys or his slaves.

The furniture for the drawingroom being generally chosen by the lady, a tolerably fair opinion of her character and intellect may be formed from the taste displayed in its arrangement; and by the various ornaments and other works of art it contains.

The carpet may be considered as one of the most important articles of furniture, and much care is necessary in its selection. If the colours be too gaudy and overpowering, they will injure the effect of the other furniture; and, if too cold, they will give an air of cheerlessness and discomfort: for use and economy, the pattern should be rather diffusive than set and formal; the principal shade being interspersed with gayer and richer toned colours, and such as will not easily be injured by dust. The carpets in most general use are of the kind called Brussels; but the Axminster carpet, thick and without a seam, is the most splendid article of the sort of any I am aware of made in England. In some of the houses of the rich are carpets manufactured in Persia, splendid and gorgeous beyond description. Here again the design for the pattern should be guided by the architecture of the room: the same carpet that would harmonise well with the character of a room in the Elizabethan style, or of the time of Louis XIV., would hardly suit with the present light style of fitting up a drawingroom. The carpet, when not fitted to the room, should have a border, leaving about from 18 in. to 24 in. of the floor uncovered.

The hearth rug should be of a pattern to agree with the carpet, but bolder; it should be thick, warm, and ample in its dimensions, for if too small it will give a mean character to the fireplace; the fringe round the rug, if there be any, should be thick and massive.

The card tables, the occasional sofa tables, as well as the frames of the sofas of the present day, are usually of rose wood, plain and not inlaid; but, if of a superior description, they are richly carved. Here, again, I must protest against the representations of lions' paws for the feet of tables, while we have such elegant forms in the various kinds of scrolls, knobs, foliage, &c.

The seats to the chairs, sofas, &c., are usually covered with the same kind of material as the curtains are made of; but, notwithstanding the fashion, stuffs, or moreens, either plain or damasked, are too heavy for a modern drawingroom: they are appropriate in an Elizabethan or Louis XIV. room, but for a modern room, the printed chintzes, lined with silk or glazed cotton, have a much more light and tasteful effect. Should chintz, however, not be deemed elegant enough, plain or figured silks, perhaps with a worked border of flowers, or damasked or striped satins, may be used; than which last, with their rich binding and deep massively fringed drapery and gold cornices, nothing can be more stately and imposing.

For chairs, nothing can surpass in elegance and stateliness the cream or blush-coloured ample carved arm-chair of our forefathers, modernised in its shape: some of the plain mouldings gilded, and the carved parts richly relieved with gold; the seats covered with embossed or damasked satin like the curtains, or worked with flowers in silk in their natural colours, and fringed. This is indeed a chair fit for a young and stately beauty to sit in, in all her pride of loveliness, and will not shame her own attire, though it be of silk or satin ever so rich and rare. Besides chairs and sofas, there should be other cushioned seats, and footstools, placed in convenient parts of the room.

The pianoforte is now to be found, in one shape or other, in almost every drawingroom, from that of the humble tradesman, to which he occasionally retires after the duties of the day are over, from his shop below, to hear his child or wife play or sing the airs he loves, to that of the palace. Through nearly all the gradations of society may now be found this universal instrument; and I trust the time will yet come when it, and similarly innocent occupations and enjoyments, will supersede the gaming table among the higher ranks, and public-house parlour among the lower; when its innocent enjoyment may be found in almost every house; and the airs of Beethoven or Mozart may become household melodies here, as they are in Germany.

In the drawingroom are frequently exhibited other results of the elegant accomplishments of the female part of the family, in their paintings, their pencil or chalk drawings, their representations of flowers in rice paper, in wax, &c., by which they preserve those lovely forms and hues which nature so prodigally scatters over this beautiful world, each in their season, for our lasting admiration; and which, when faithfully copied from living specimens of her transitory productions, makes them perpetual.

The card table, either plain or carved, should be in keeping with the other furniture, and with the room. If the chairs and sofa are carved, the card table should be so also. The top, when open, should exhibit a smooth cloth, its colour harmonising with the other colours in the room. The practice which partially prevails in some parts of the country, of having the card tables of rose wood all over, instead of its inside being covered with a cloth, is, I think, not in good taste.

On the walls of the drawingroom are frequently hung the choicest paintings of the owner; but care should be taken in the selection: painful subjects should never be hung up in a sitting-room; they should be confined to the portfolio. Landscapes and historical pictures, conveying a good moral, or an illustration of some celebrated event of a pleasing or reflective kind, but not exhibiting the bad passions of our nature, as in battles and murders, are the most desirable. A clock and a beautiful vase or two, with cut glass lustres, and a few other choice ornaments, may be placed on the chimney-shelf. On marble slabs, with gilded frames or brackets, may be placed the sculptured busts of celebrated persons, or of some one dear to us.

Silvered mirrors of polished plate glass, in gilded frames, cannot be too profusely employed in a drawingroom; and, where it can be contrived, they should be placed exactly opposite one another, by which means the reflection of every thing that comes within their focus is endlessly reproduced; and when the cut glass chandeliers are lighted at night, and ladies with their courtly plumes of feathers are moving within the scope of their operation, the scene becomes fairy-like and brilliant beyond description. Frames for looking-glasses are sometimes covered with velvet with gold mouldings; and these frames have a beautiful effect while fresh; but they soon soil, and, on the whole, are not equal to frames gilded all over.

Or moulu lamps are out of place in a drawingroom : they are very elegant and fit for the dining-room or library, the hall or the gallery; but cut glass can alone realise our ideas of grace and splendour in a room so peculiarly devoted to the ladies.

Most of the previous remarks will apply equally to the drawingroom in the country as in town ; but there is, in my opinion, an advantage that the drawingroom in the country may possess, the loss of which no extra splendour of decoration of the one in town can compensate: I mean the view of the country and of the flower-garden and the conservatory. These, even with moderate means, may often be obtained in the country; in town never: for, although the wealthy may have their well-filled conservatories, and very beautiful and costly many of them are, yet the great delight that the lover of nature and of flowers has in seeing them day by day, and in watching them as they arrive at their full perfection, is lost; and you can only have them to see them sicken and die. Nevertheless, it is much to have them at all ; and if they give intelligible hints to those who live in towns, as to what beautiful things are to be seen and possessed out of its smoky atmosphere, and lead them occasionally into the green fields and lanes, and the bracing, exhilarating, pure air of the country, they do a great good; and I would advise all who can to have them.

A few years ago, I saw a drawingroom, in a country house belonging to a London professional gentleman, that struck me as excellent of its kind. The style was that of Elizabeth, or, perhaps, of rather a later period. It was approached by two doors, both on the same side of the room, the one leading from an entrance hall or passage, the other from the best staircase. Between the doors, centrally situated, was the fireplace; ample in its dimensions and massive in its character. It was of native marble, but plain, with carved oak above, reaching up to the ceiling; on the opposite side were three windows; the centre one was an oriel window, deeply recessed, and approached by an arched opening; the plan of the window was that of five sides of an irregular-sided octagon, the centre one wide and divided by mullions; the sides next the centre were filled in with oak transom frames, and all had oak casements; the remaining two sides were wainscoted with oak, and were recessed five or six inches with well-filled bookshelves from the floor to the ceiling. Round under the window was a continued oak seat; and in the centre of the recess was a small carved oak table. The diameter of the whole window might be about 10 ft.; the opening into it about 6 ft. The soffit, or ceiling, was paneled in oak.

The size of the drawingroom, as nearly as I can recollect, was about 45 ft. long, 22 ft. wide, and 13 ft. high. These proportions rendered the room too low, which was its great defect.

The other windows were canted bows, with oak transom frames and casements, and seats round them. From these windows you looked direct on the lawn and flower-garden to the south, the roses growing up to the windows; at one end of the room was a large transomed window, wide and down to the floor; its plan was half a decagon, with sashes all round: the whole of the sashes were glazed very tastefully in lead. The window at the west end led into a conservatory of about the same dimensions as the drawingroom, having a broad walk along the centre, terminated by folding sash-doors leading on to the lawn.

The room was wainscoted from the floor to the cornice with old oak framing; the cornice was likewise of oak, very richly and boldly carved, and the whole was of a fine tone of colour and highly varnished; the ceiling was plain, except that two oak girders formed it into three compartments, and it was tinted a warm tone of colour.

The furniture, consisting of tables, chairs, pianoforte, sofa, screen, &c., was all of oak, carved and polished; the seats of the chairs were covered with tapestry; the curtains were a crimson moreen, with carved oak cornices. Altogether this room struck me as being nearly perfect of its kind; yet, for my taste, it was of too sombre a character, and certainly too low.

Art. V. *On the Discrepancy which often occurs between the Sum charged for the Erection of a House, and that which the Gentleman building expected to pay for it.* By an Old Builder.

It is a very common thing to hear persons, who have had much to pay for building, complain that they have been shamefully deceived by their architect, surveyor, or builder, and that the works have cost them a great deal more than they were told they would come to. Now, although I am aware that it has happened, and I have no doubt that it frequently does happen, that the total amount of the accounts far exceeds any sum the employer ever anticipated, I do not think it strict justice that the error, if there is one, should be thus all laid to the architect or builder; but I am rather disposed to believe that the discrepancy arises from some one of the following causes: either the architect or builder has not understood what the employer desired, or he has not understood his own profession or business; or, what is very often the case, the employer himself has not understood the plans and specifications given in, and has therefore made his calculations upon what he himself desired, rather than upon the information intended to be conveyed to him by the drawings, &c.

Another reason why the amount of the bills often exceeds what was expected is, that the architect or builder has omitted to explain to his employer that certain works, absolutely necessary to the fulfilment of the designs, are not included in the specification, and that he must take them into consideration in calculating the amount of his intended outlay.

Now, it appears to me, if the following principles of conducting a business of this sort were attended to, neither the employer nor the employed could complain without good cause; and the error would then rest on the right shoulders. A gentleman, if he is desirous of erecting a new house, or of altering an old one, should, after explaining to his architect or builder his own views as well as he is able (and if in writing so much the better), direct his architect or builder to furnish, with the plans, elevations, and sections, a specification of all the works to be done, and especially that he should name all the works necessary to the full completion of the design, and of the intentions of the gentleman, that were not included in the specifications, and yet would have to be done and paid for before the building could be occupied: likewise, that he should give a full description of the plans, clearly explaining the uses and intentions of each room, &c., in a familiar manner; by which the non-professional man may understand, as well as the architect, what really is intended. Besides these papers, before the works are begun, the architect or builder should supply a blank bill of quantities; and this bill of quantities should be furnished by the architect, if the works are to be contracted for, to each contractor, for which he should be allowed to make a small charge of from a half to one per cent to the successful candidate; or, what is better, to the gentleman; for the contractor, if he pays it, will add it, as a matter of course, to the amount of his estimate. A great good would result from this mode of proceeding; and I believe it is adopted by some architects: it is a check upon the architect himself, and is an excellent means by which he can discover if any thing has been omitted in the specification or plans; it will also render unnecessary a very unfair clause frequently put into contracts; viz., "that the contractor shall complete the whole of the works to the true intent and meaning of the drawings or specifications, whether they are expressed and set forth in the specification, or shown in the drawings, or not." Now, who ought to understand so well as the person who has designed the building what works are necessary to be done to make it what he, the designer, intended it to be, as himself (and yet the contractor is expected to take upon himself to pay for the blunders and omissions of the architect); the designer having had the plans, &c., before him, perhaps, for months, and knowing them, as it were, by heart, while the contractor, or any one employed by him, is expected to make himself master of the plans, specifications, and intentions of the designer in a day or two; nay, sometimes in a few hours. Now, I do not think it unreasonable to call upon the architect to give the quantities necessary to carry into execution the design he has made. He professes, and is expected, to give to his employer an estimate of the amount of the sum which it will cost to carry his design into execution; and to do this, fairly and honestly, he ought to take out the dimensions accurately; and, if he does so, there can be but little trouble given to his clerks to make a fair copy of the blank bill of quantities, certainly not more than the remuneration proposed will cover. I am alluding now to an estimate from which the gentleman may really know what he will have to pay, where there is no contract; or which should be supplied to the contractor where there is one. By this plan the architect will be made responsible for his own blunders, if he has failed to describe the works in a proper manner. There is no subject causes more differences between the architect and the contracting builder than the extras claimed by the contractor, and disputed by the architect, upon the ground that they were necessary to the fulfilment of the designs, and that, although they were not named, yet they must be considered as parts of the works contracted to be done. Now, if the contractor had been furnished by the architect with a blank bill of quantities, the question would easily be set at rest, by taking the quantities of works actually done, and comparing them with the blank bill, both as to extras and omissions; and, as this would be attended with some expense, justice would be obtained by both parties; as, instead of having to decide upon a written description, subject to be misunderstood from its vagueness or indefiniteness, you would have a fact before you in the shape of so many rods, squares, yards, or feet; and, therefore, unless the builder, who will know the truth better than the architect, is certain that more materials and labour have been required for carrying into execution the specifications and directions of the architect, than are given in the bill of quantities, he will not incur the certain expense and injury to his character which must accrue from disputing the question; and, if he has provided more materials and labour than he contracted for, he ought to be paid for them, always remembering that he is not to take the scantlings of his timbers and other works larger than the specification or drawings describe them, which I have known attempted to be done more than once.

The contractor, being so furnished with a bill of quantities, should be required, when he signs his contract, to give to the architect a copy of this bill, with the prices he has put to each article; so that, in case of works being omitted, or added, no larger a price shall be put to the deductions, and no less prices to the additions, than were put in the original estimate.

The foregoing observations are made in consequence of having so frequently heard of disputes between the architect and the builder when the question of extras and omissions comes to be settled; and if they should cause some of your numerous and talented contributors, many of whom will understand the merits of this subject much better than I do, to put it in a clearer and more forcible point of view than I have done, and to set me right in any errors or misconceptions that I have fallen into, he will have the sincere thanks of one who only wishes to see justice done on all sides.

ART. VI. *A short Remark or two on what is commonly called Dry Rot.* By CHARLES WATERTON, Esq.

DRY ROT is a misnomer. This disease in timber ought to be designated, a decomposition of wood by its own internal juices, which have become vitiated for want of a free circulation of air.

If you rear a piece of timber, newly cut down, in an upright position in the open air, it will last for ages. Put another piece of the same tree into a ship, or into a house, where there is no access to the fresh air, and ere long it will be decomposed.

But, should you have painted the piece of wood which you placed in an upright position, it will not last long; because, the paint having stopped up its pores, the incarcerated juices have become vitiated, and have caused the wood to rot. Nine times in ten, wood is painted too soon. The upright unpainted posts, in the houses of our ancestors, though exposed to the heats of summer, and the blasts of winter, have lasted for centuries; because the pores of the wood were not closed by any external application of tar or paint; and thus the juices had an opportunity of drying up gradually.

In 1827, on making some alterations in a passage, I put down and painted a new plinth, made of the best, and, apparently, well-seasoned, foreign deal. The stone wall was faced with wood and laths; and the plaster was so well worked to the plinth, that it might be said to have been air-tight. In about four months, a yellow fungus was perceived to ooze out betwixt the bottom of the plinth and the flags; and on taking up the plinth, both it, and the laths, and the ends of the upright pieces of wood to which the laths had been nailed, were found in as complete a state of decomposition as though they had been buried in a hot-bed. Part of these materials exhibited the appearance of what is usually called dry rot; and part was still moist, with fungus on it, sending forth a very disagreeable odour. A new plinth was immediately put down; and holes, 1½ in. in diameter, at every yard, were bored through it. This admitted a free circulation of air; and to this day the wood is as sound and good as the day on which it was first put down. The same year, I reared up, in the end of a neglected and notoriously damp barn, a lot of newly felled larch poles; and I placed another lot of larch poles against the wall on the outside of the same barn. These are now good and well seasoned: those within became tainted, the first year, with what is called dry rot, and were used for firewood.

If, then, you admit a free circulation of air to the timber which is used in a house (no difficult matter), and abstain from painting that timber till it be perfectly seasoned, you will never suffer from what is called dry rot. And if the naval architect, by means of air-holes in the gunwale of a vessel (which might be closed in bad weather), could admit a free circulation of air to the timbers; and if he could, also, abstain from painting, or doing with turpentine, &c., the outer parts of the vessel, till the wood had become sufficiently seasoned, he would not have to complain of dry rot. I am of opinion, that, if a vessel were to make three or four voyages before it is painted, or done with turpentine, &c., its outer wood would suffer much less from the influence of the weather than it usually suffers from its own internal juices, which cannot get vent, on account of artificial applications to the pores. But still the timber would be subject to the depredation of the insect. To prevent this effectually, Mr. Kyan's process must absolutely be adopted; and it must also be adopted to secure wood from what is called dry rot, in places where a free circulation of air cannot be introduced. I consider Mr. Kyan's process perfectly unexceptionable. The long arrows which the Indians use in Guiana are very subject to be eaten by the worm. In 1812, I applied the solution of corrosive sublimate to a large quantity of these arrows. At this hour they are perfectly sound, and show no appearance that the worm has ever tried to feed upon them.

I have penned down these transient remarks by way of preface to others, which I may possibly write, at some future time, on decay in living trees.

Walton Hall, June 20. 1835.

ART. VII. *On the comparative Advantages of Painting and Papering the Walls of Apartments in Dwelling-Houses.* By Mr. D. R. HAY, House-Painter, Edinburgh.

HOUSE-PAINTING being an art so conducive to the comfort, durability, and interior appearance of dwelling-houses, and, at the same time, so susceptible of improvement, it is surprising that those who follow it as a profession do not generally cultivate it with more assiduity and enthusiasm. The observations made upon the state of this trade in regard to taste, some years ago, by the talented writer of an article upon the fine arts in the *Edinburgh Encyclopædia* [one of the correspondents of this Magazine], have no doubt been productive of good; but there still remains a great deal to be done. One step towards the improvement of any trade or profession is, to disseminate a proper knowledge of it by means of such publications as the *Architectural Magazine*, where subjects like the present can be discussed; for, when this point is accomplished, such a trade or profession is more likely to become a general topic of conversation, and, when improvements are made, they will thereby have a better chance of being understood and appreciated. There is no trade that stands more in need of this than house-painting; for, of all the arts connected with domestic comfort, there is scarcely one upon which so little has been written, and, consequently, of which so little is known. It will be necessary, therefore, in treating of this subject, to be as explicit as possible.

It is well understood that the ceilings and walls of all the apartments of dwelling-houses and other buildings in this country are now almost uniformly finished in plaster; and the nature and properties of this composition are also well known. One of these properties is its power of absorbing moisture, or, in other words, its facility in attracting and imbibing dampness. Consequently, when an apartment is left for any length of time without the benefit of a fire, or of heated air supplied by other means, the plaster will continue to absorb a portion of the dampness from the atmosphere with which the room is filled; and it is natural to suppose that, when a fire is put on, or heated air is otherwise admitted, this dampness will be gradually given out by exhalation from the plaster. This process of exhalation must affect the durability, not only of the plaster itself, but of the woodwork under it, and must also render the apartment much less comfortable than if it had been rendered incapable of such absorption.

It therefore becomes an enquiry of some interest, whether painting or papering (the two methods by which the walls of our apartments are usually decorated) is the best adapted to counteract these disadvantages.

The process of painting plaster-work is as follows: — white lead and linseed oil, with a little litharge to facilitate the drying, are mixed together to about the consistency of thin cream; a coating of this being applied, the oil from it is sucked into the plaster in the course of a few hours, leaving the white lead apparently dry upon the surface. In the course of a day or two, when this coat has sufficiently hardened, another is given, a few degrees thicker, the oil from which is partially absorbed according to the nature of the plaster. In the course of a few days more, a third coat is applied. This coat is made pretty thick; and if the absorption of the oil from the second coat has not been great, about one fourth of spirits of turpentine is added; but where the absorption has been great a less proportion of spirits of turpentine is employed. Into this coat is put the colouring ingredients, to bring it near the shade intended for the finishing coat. Should the plaster now be thoroughly saturated, the flatting or finishing coat is applied; before this is done, however, a fourth coat, thinned with equal portions of oil and spirits of turpentine, is generally given; particularly where the work is wished to be of the most durable kind. The flatting or finishing coat is composed entirely of paint; that is, of white lead, and the colouring ingredients mixed together, and ground in oil to an impalpable paste: this mixture is of a very thick consistency, and must be thinned with spirits of turpentine until it will flow easily from the brush. The spirits of turpentine, being very volatile, evaporate entirely, leaving the surface of the paint of a very compact and hard nature. By this process, the plaster is rendered incapable of absorption; and the surface of it is hardened by the oil, which it has sucked in from the first and second coats, and is thereby rendered less liable to breakage, with the great advantage of being washable.

It now remains to be seen whether paper hangings are equally well adapted to the comfort, cleanliness, and durability of the generality of apartments, as a decoration for plastered walls. Every one knows that paper itself is more or less absorbent, according to its quality. When it is manufactured into paper hangings, it is washed over with a coating of size colour, equally absorbent with the paper itself, upon which a pattern is stamped with the same material. To prepare the plaster for papering, it receives a coating of a weak solution of glue in water; and the paper, as every one knows, is fixed to the wall by paste. Paper hangings, therefore, cannot be considered, in a general point of view, as being so well adapted to plastered walls as paint; and there are particular situations in which serious disadvantages attend paper, which a short explanation will make apparent to every one. Take a dining-room for example. The papered wall has nothing in it to resist the absorption of the steam of the dinner, or breaths of the large parties by which it is often crowded: the glue and paste used in paper-hanging must be thereby softened, and the moisture absorbed must, of course, be afterwards gradually given out in connexion with the natural effluvia of these, the former of which all know to be extracted from animal substances, not of the most cleanly nature, until the wall be again thoroughly dry. Besides, a prepared wall is liable to be injured past remedy by so common a casualty as the starting of a bottle of table beer, champagne, or soda water.

Lobbies and staircases are sometimes papered, although the practice is not very common in Scotland. This is very objectionable, as the condensation of the atmosphere, which always takes place upon the walls of such apartments on a change of temperature from cold to warmth, must be absorbed, and again given out, as before explained. They are likewise very liable to accidental injuries, and should, therefore, have the hardest and most impervious covering.

In regard to drawingrooms and bed-rooms, these particular objections to paper hangings do not apply; yet there are modes of painting drawingrooms superior not only in point of utility (to which for the present these observations are confined), but also in effect. This may probably form the subject of another communication. — *Edinburgh, May* 20. 1835.

REVIEWS.

Art. I. *Schinkel's Entwurfe.* Drey-und-zwanzigstes Heft. Fol. Berlin, 1835.

Almost every new part of this collection of designs increases our admiration at the fertility of invention, the feeling, and the taste displayed by their author. The present subjects consist of several plans, elevations, and sections, besides a perspective view, of Schloss Kurnik, in Poland, the seat of Count Dzialinsky; elevations, plans, one perspective view, and two perspective interiors of Count Redern's palace at Berlin; and elevations and plans of the new Guard-house at Dresden. The two first-mentioned buildings lose nothing in interest from their being alterations of old and, we may add, most ugly-fashioned mansions, of which the elevations are also introduced. Those of the former Schloss Kurnik were detestably vile, in a sort of Frenchified Dutch taste, than which it is hardly possible to conceive any thing more grotesquely barbarous, or more ill suited to the character of a country residence. With comparatively slight alterations of the ground plan, but leaving the greater part of the old walls untouched, the architect has now reshaped the whole, and has availed himself with so much taste of the awkward circumstances he was obliged to humour, that he has, probably, introduced some beauties which might otherwise not have occurred to him. Although of moderate size, the new mansion is one of exceedingly stately aspect, owing to the parts being judiciously disposed; few, yet strongly marked, with just that degree of irregularity which contributes to picturesque character, without breaking up the importance of the general mass. The style adopted bears a striking resemblance to our English castellated domestic, with some peculiar features. There is, for instance, much novelty of expression and application in the three-storied compartment occupying the central division of the entrance front; containing three lofty doorways below, and three spacious windows in each of the two upper stories. The details of the composition thus formed are of most careful and elegant design, and its splendour does not at all interfere, or seem inconsistent, with the plainness of the rest. On the other hand, the simplicity which marks the remainder of this front, and the side elevation, by no means partakes of insipidity. Besides the painter-like variety thrown into the building itself, there is something rather unusual, and certainly pleasing, in the lower terraces along its sides, to which flights of steps lead down from the upper one level with the bridge immediately facing the entrance.

Count Redern's mansion exhibits hardly a less striking transformation than the preceding, — one from a clumsy-looking house in the ugliest old French mode, to an exterior of most noble simplicity. In addition to the front, one of the sides is exposed to view; and both are uniformly finished, entirely in rustic work, and surmounted by a massive cornicione, with an enriched parapet above it. Of ornamental detail there is, consequently, but little: yet the effect is, like that of the older Florentine palaces, highly imposing: far preferable, indeed, to that commonplace display of puny columns which is so frequently passed off as a substitute for all other merit. As to the interior, if we may judge of it by what is shown in the two perspectives, we should imagine it to be distinguished by an air of refined elegance. One of these shows an outer anteroom, or upper vestibule to the suite of principal rooms; the other, the inner drawingroom, or saloon; and both of them exhibit a considerable degree of novelty. The first is divided by a screen of Corinthian columns into two parts, the narrower one of which is much loftier than the other, having a highly enriched vaulted ceiling, the summit of which is 27 ft. from the floor; while the height of the larger space corresponds with that of the other rooms; viz., 18 ft. The entablature is particularly rich, as is also the semicircular space above it, at the end opposite the larger arched window facing the principal entrance from the staircase; and the whole bears a character of no ordinary classic beauty. The other apartment is even still more decidedly novel in the style of its decorations and its form, although it is not set off by columns. Its dimensions are 18 ft. in width by 26 ft. in depth from the window end, which is occupied by a single arched window, similar to the one just mentioned. In height, too, it corresponds with that portion of the vestibule above described, being 18 ft. to the top of the cornice, from which springs an arched ceiling that makes the entire altitude 27 ft. The end opposite the window is a semicircle, raised three steps above the rest of the floor, so as to form a divan, entirely surrounded by ottomans, consisting of deep cushions only. The semi-dome above, with the ceiling and the upper part of the walls, is richly decorated *à la Pompeii*, and the lower part of the walls is paneled for about the height of 7 ft., when there occurs a bracket cornice, forming a projection upon which are ranged a series of vases. Besides these embellishments, there are three large niches with statues, in the semicircular curve, placed within ornamental compartments of the painting. Of the effect we can judge but inadequately, because the engraving shows form and design alone, without colour, but should imagine that the ensemble must be strikingly splendid. The proportions, too, and the semi-dome, give this apartment a rather unusual character, although the mere plan seems to manifest but a slight deviation from the ordinary forms of rooms.

The third subject in the number, viz. the Guard-house at Dresden, is a very elegant Grecian Ionic building, in which, with the view of avoiding the anti-Grecian system of two stories, within a single order, the architect has combined the windows of both floors, placing an upper and lower window within a lofty architraved *casing*, nearly similar to the doorways within the portico. We believe it to be the first instance of the kind, and are of opinion that it might frequently be adopted with advantage, since, if recommended by nothing else, it would at least help to diversify the monotonous system now in vogue.

We cannot enter into further particulars respecting the contents of this number; but all the subjects are well worthy of analysis and study, and the more closely we examine them, the more do we become convinced that Schinkel possesses the enviable talent of bringing to light perfectly new and valuable ideas, which, instead of having any thing forced or extravagant in them, are so congenial with the spirit of the art, that they appear to have lain concealed just beneath the surface others are contented to skim over. Even those who dive deeper often contrive to miss them; while some plunge down to the very bottom, and actually stick fast in the mud.

ART. II. *A Letter to Lord Brougham on the History and Character of the Royal Academy.* By George Foggo, Artist. 8vo, pp. 16. London, 1835. 6*d.*

THE object of this letter is the very laudable one of destroying the detestable monopoly of the Royal Academy. The origin and history of this body are traced from 1767 to the present time, and its numerous abuses pointed out in a clear and forcible manner. Mr. Foggo shows that the arts became deteriorated in France after the establishment of an academy in Paris, in 1665; that this deterioration continued till the academy was abolished by the French Revolution, in 1790; that after this the arts again rose, notwithstanding many disadvantages, till the reestablishment of the academy under Bonaparte again occasioned gradual deterioration. The following summary will show the object of the author, to whose enthusiastic ardour in favour of art, and also to that of his brother, Mr. J. Foggo, every artist and architect *not belonging to the academy*, and the public generally, are deeply indebted.

> "The Royal Academy, so far from having a right to claim whatever talent exists among us, has produced but a small share thereof: they certainly claim Howard, Hilton, Briggs, Baily, Westmacott, Joseph, Uwins, Webster, and M'Clise; but Martin, Gibson, Chantrey, Stanfield, Danby, Turner, Varley, Holmes and Heaphy, Copley Fielding, Cattermole, and Bonnington, far outweigh them; and many of the greatest academicians themselves must be added to the list of those who required not its '*fostering care:*' for instance, Sir Thomas Lawrence, having obtained medals of the Society of Arts, became a simple probationer for admission to its schools, when he was rejected: Flaxman, who had improved at the Duke of Richmond's Gallery, under the members of the chartered society, became a candidate for the Royal Academy's gold medal; but, having been denied it, he withdrew, to become, not a favourite candidate, but the admiration of Europe; he then returned, and was received with the highest honours of the institution. Edwin Landseer was refused admission to the painting school, and Cooper to that of the antique, the lowest of all; but they were soon after admitted professors, where they a short time before were not deemed eligible as pupils. Opie was instructed by Dr. Walcot; Chantrey, having learned drawing as well as carving at Sheffield, resided some time at Twickenham, and, after a trip to Rome, shone forth at once a great sculptor, and was immediately absorbed into the academy as a principal supporter of the body. Wilkie was also well received, when his pictures, exhibited in a shop window at Charing Cross, had secured public approbation; although the exposure of a picture at a window has, in another case, been adduced as a sufficient reason to thwart the election of a candidate.* Bird, a japanner at Wolverhampton; Bone, in the same line in London; Martin, a pupil of Muss, and a china-painter, received not the assistance or instruction of the academy: but we need look no further than to the list of presidents and professors of painting, Reynolds, Wyatt, West, Lawrence, and Shee; Penny, Barry, and Fuseli were all reared out of the institution. It is not the academy that supplies artists to the country, but the country to the academy. Why should not the country be left to apply its own talent, free from the interference of a monopoly? Then the manufactures would again profit by the exertions of genius, as they once did in the days of Wedgewood and Helicot, of Boydel and of Rundel; they would find their natural course; nor would it be longer considered derogatory for artists to employ their talent in the improvement of the mechanical productions, or in the communication of that talent."

"* Wilkie did, indeed, on his arrival from Edinburgh, study for some time at the academy; but a style so opposite to their *principles* deserved no notice, until better judges (the public) had decided on the pictures in the shop window."

The appeal to Lord Brougham, in the last page, is most eloquent; and we should be tempted to quote it, were we not anxious that the reader should procure the original.

Art. III. *An Attempt to determine the exact Character of Elizabethan Architecture, illustrated by Parallels of Dorton House, Hatfield, Longleate, and Wollaton, in England; and the Palazzo della Cancellaria, at Rome.* By James Hakewell, Architect, Author of the "Picturesque Tour of Italy." 8vo, pp. 23; and 8vo plates, from the author's drawings. London, 1835.

This little work is "given to the public in the endeavour to fix some general rules for the style of architecture that began to prevail in this country about the end of the sixteenth and the beginning of the seventeenth century, which is known with us as the Elizabethan, and to relieve it from the barbarisms with which it has been overloaded." Mr. Hakewell considers the Elizabethan style as the *Cinque Cento* style of Italy, which originated with the revival of architecture in that country in the fifteenth century. This style, he says, both in Italy and England, is wholly unmixed with Gothic forms, or Gothic enrichments; and it is exhibited in perfection, in Italy, in the Palazzo della Cancellaria in Rome, erected in 1495, and in the Palazzo Giraudi, also in Rome, erected by Bramante in 1504. In England, it superseded the domestic Gothic, and was adopted by John of Padua, at Longleate, in 1579; by Thorpe, at Kensington House, Wollaton, Ampthill, and other places; ending with Whitehall, by Inigo Jones, in 1629. An attentive observer of these examples, our author is of opinion, will be convinced that "the pure Elizabethan is the Cinque Cento of Italy."

In England, this style is very commonly confounded with a mixture of Cinque Cento and Gothic, which, as appears by Willis's *Architecture of the Middle Ages* (see p. 297.), was also the case in Italy.

"To assist our enquiries in the endeavour to define what Elizabethan is, it may be as well to ascertain what it is *not*. It is not the ornamental gable, the bay, or oriel window, for these were all in common use long previous, as at Lincoln's Inn and the Temple Halls; Christ Church, Oxford; and many other Colleges at both the Universities: it is not the ornamental chimney shaft, nor the pendant and enriched ceiling. Our examples for the former are generally drawn from Eton College, Bucks; Compton Wyniate, Warwickshire; Gifford's Hall, Suffolk, erected half a century before the appearance of the style under consideration. Having from these unquestionable data determined what it is not, we may the more easily determine what it is: for had nothing more appeared on the buildings of the day than we have just recited, the name of Gothic or Tudor architecture would have amply described it.

"But about this time a style new to the English eye appeared, and the earliest specimens of it were so elegant in the general arrangement, and so delicate, yet effective, in their detail, that it was certain of the approval of men of taste and judgment. The inadequacy of our artists to execute the designs of the Italians, and the difficulty and expense of procuring foreign assistance, soon originated an imitation which the abilities of our workmen *could* execute; and thus the Elizabethan may be classed under two divisions; the first, or proper, being the Cinque Cento of Italy, as introduced at Longleate, and part of Hatfield; the second, or lower order, that in which, as far as possible, the same forms were observed, but the decoration and enrichment confined to such figures as the common mason or joiner could execute, as at Wollaton, Dorton, and many others. If, however, the Cinque Cento, though adopted by the genius of Bramante, and recommended by the talent of John Pisano, Donatello, and Ghiberti, should have given place to the overwhelming influence of Michael Angelo, and succeeding architects, how much more was it to be expected that with us, where, whenever the accessories of sculpture were employed, the design was overloaded with unmeaning or disgusting forms, it should have disappeared under the same desire (however inappropriate to private houses) of increasing the diameter of the column by giving it the whole height of the edifice."

In Sir John Soane's library, there is a MS. book of Plans and Elevations of Houses erected by John Thorpe. Mr. Hakewell has had an opportunity of looking over this book, which consists of 280 pages, almost entirely occupied with delineations in the Elizabethan manner.

" The plans and elevations are neatly drawn; but wherever the smallest attempt occurs at the introduction of ornament or of the human figure, it is not above the execution of the most ordinary mechanic. No principle of beauty or form appears to have guided his compositions, and the quaint learning of the time seems to have decided the form of some of his principal buildings. Thus his own residence was built in the form of the letters which are the initials of his name, and are described in the doggrel lines below, probably his own composition likewise:—

" These two letters, IT,
Joined together as you see,
Make a dwelling-house for me.

" J. Thorpe.

And Longford Castle, from the same authority, was built as an emblem of the Trinity."

We shall conclude this notice with the following judicious remarks, recommending the work itself to the reader.

" There are heresies in art as well as religion: true principles will, however, always reestablish themselves. The last century has seen the style introduced by the Adams, largely employed at the Adelphi, Syon House, and many country residences, expire with its authors; the style designated by its inventor, Emlyn, as the British, employed at Beaumont Lodge, near Windsor, and elsewhere, the existence of which was as transitory as the former. Thus has the Cinque Cento been so overloaded with barbarisms as to be scarcely recognised, and thus has the present day seen the revival of that absurd character of ornament, commonly known as the style of Louis the Fourteenth, and we cannot better express our opinion of it than by again quoting the able work of the late Thomas Hope, an authority which we are happy to be able to avail ourselves of, and which neither the professional man nor the amateur will venture to dispute:—

" ' Finally, as if in utter despair, some have relapsed into an admiration of the old scroll work, the old French style, of which the *French had become ashamed, and which they had rejected;* and greedily bought it up. Not content with ransacking every pawnbroker's shop in London and Paris, for old buhl, old porcelain, old plate, old tapestry, and old frames, they even set every manufacturer at work, and corrupted the taste of every modern artist by the renovation of this wretched style.' "

The plates consist of a compartment of the Palazzo della Cancellaria at Rome, compared with one of Longleate; of one of Hatfield, compared with one of Wollaton Hall; a ground and first floor plan of Dorton House, and a screen staircase, chimneypiece and ceiling, in this very interesting Elizabethan mansion, which, standing in a secluded part of Oxfordshire, is very little known. Our readers will thus see that the *Attempt*, &c., though short, is full of interest.

As an Appendix, there is " *A Word on the rebuilding the Houses of Parliament*," in " which the competition of the leading men of the profession " is recommended, and a public exhibition of the plans given in. We cannot see the wisdom of limiting the competition to the leading men of the profession; because if this principle were adopted and acted on generally, it would exclude all the rising talent, and all extra-professional talent. If there is to be an exhibition of the designs, what have the leading men of the profession to fear from the designs of those who are not leading men? Unless, indeed, it be that the judges would not be able to decide between them. If this be the reason, then we may say such judges are unfit to decide at all. For our own part we advocate not only free competition, but public exhibition, and public discussion on the plans; the deviser of each design having permission to come forward and explain and defend it if he thinks fit. Why should not the subject of a proposed public building be discussed in public, and reported to the world in the newspapers, as well as a proposed public law?

Art. IV. *Gothic Ornaments drawn from Examples executed in the improved Papier Mâché.* By Charles F. Bielefeld, Modeller. 4to, nine plates. London, 1835.

We have before (p. 40.) noticed the designs of Mr. Bielefeld, with that high degree of approbation to which we think they are fully entitled. The present series consists entirely of decorations and architectural details in the Gothic style, modelled and executed for one or other of the following public or private buildings: " Windsor Castle; Chatsworth; Oakley Park, Suffolk; Warfield House, Berks; Chipstead House, Kent; Hastings Lodge, Hastings; West Markham Church, Notts; Prior Park, Bath, &c. In London, at St. James's Palace, the new temporary Houses of Parliament; Chesterfield House, South Audley Street; Stafford House, St. James's; Crockford's Club-House; Carlton Club-House; Pantheon, Oxford Street; British Museum, &c."

"Mr. Bielefeld is also engaged to design, model, and execute the interior ornaments of the new Exchange at Berlin; and he has little doubt that the period is not distant, when this plastic and beautiful material will be substituted on the Continent for the Carton-pierre, which is now so much used in France; but which, when compared with the improved Papier Mâché, is inferior in every respect." (Preface.)

ART. V. *A History and Description of the late Houses of Parliament and ancient Palatial Edifices of Westminster, &c.* By John Britton and Edward W. Brayley, Authors of numerous antiquarian and topographical publications, &c. 8vo. 1835. Nos. V. and VI. for May and July, 2*s*. each.

THE embellishments to these numbers are, St. Stephen's Chapel, interior, looking east; New House of Commons, March 1835; New House of Lords, March 1835; Ground Plan of Chantry Chapel, and part of Cloister; St. Stephen's Chapel, section of ditto from north to south; View of Buttress, and part of east side; Westminster Hall; View in the Star Chamber; View of the Chantry, Chapels, Cloister, &c., St. Stephen's Chapel; View of Cloister, up stairs to Speaker's Apartments. The letterpress extends to p. 160., and is full of very curious antiquarian matter, extracted from books or MSS. little known or altogether inaccessible to the public.

Agreeably to the fashion of the time, our authors, on the wrapper of No. VI., make some observations on the new Houses of Parliament, and on competition plans, and from these we shall make one or two extracts: —

"Whilst a critical elucidation of the late Houses of Parliament supplies important matter-of-fact to the historian and antiquary, it also affords to the architect valuable evidence to guide his judgment in making designs for new buildings, and thereby render them better adapted to the wants, conveniences, and the comforts of Parliament. Let us ardently hope that the highest qualities of the profession will be exerted on the occasion, and that the soundest judgment and strictest impartiality will be exercised by those who are appointed to make the final election. From the days of Sir Christopher Wren to the present, the honest architect has frequently had to contend with ignorance, with prejudice, and with private interests; he has not had fair play, nor have his talents been duly appreciated by the English public. We trust that a new era is about to commence, and that, whilst the accomplished artist struggles to vindicate his own powers and resources, he will meet with discriminating judges; that public buildings will be entrusted to men of integrity and talent; that no vain officious person, nor yet body politic, will be suffered to mar those designs of the architect which have obtained the approval of competent critics.

"Among the resolutions of the 'Rebuilding Committee' there is one, the 26th, which is couched in very objectionable terms; it is also inaccurate, and liable to manifold interpretations. It prescribes 'the *style* of the buildings to be either *Gothic* or *Elizabethan*.' Now the word *Gothic* has no fixed nor determinate meaning: it has been, and is frequently, applied, by the authors of popular works on architecture, to the Norman, or semicircular arched; to the first pointed or lancet; and to all the other varieties of the ecclesiastical buildings of the middle ages; and, therefore, it ought not to be employed on such an occasion as the present. It is calculated to mislead and confound both the student and the veteran architect. Nor is the word *style* strictly proper; as will be seen by reference to Mr. Hoskins's able essay on architecture, in the *Encyclopædia Britannica*. See also the *Chronological History of Christian Architecture*.

"That the '*Elizabethan style*' should be held up for a pattern, as an example to be imitated in the present age, and to be employed in a great mass of buildings devoted to the Houses of Parliament, is most surprising; and can only be accounted for by supposing that the writers of this report referred to the *domestic architecture* of the *Tudor age*. Surely, it would not be advisable to recommend an imitation of that part of Windsor Castle built by Queen Elizabeth; or of Holland House, Kensington; or Hatfield House in Hertfordshire; or, indeed, any other existing work of the Elizabethan age. Every transition or intermediate link between two classes or fashions of architecture is commonly defective; and it may be safely affirmed that the mongrel buildings of 'the maiden Queen's' reign, are among the blemishes rather than the beauties of art.

"Whilst, however, we disapprove of the phraseology of the resolution, we are satisfied that in sentiment and principle it is right. We are pleased to know that the Committee recommend a design for the new Houses of Parliament to harmonise and to assimilate with the old buildings at Westminster, i. e. the Abbey Church and its splendid Tudor Chapel, the vast Hall, &c. The architect who has diligently studied the spirit and the detail of the monastic buildings of the middle ages, will be enabled to make a design which may possess the same expression and exhibit similar characteristics, without being a servile copy of any preceding building, and thus be strictly calculated to harmonise with, and to constitute a seeming portion and component member of, the edifices referred to."

We leave these extracts to speak for themselves.

MISCELLANEOUS INTELLIGENCE.

Art. I. *Retrospective Criticism.*

The notice of the address and proceedings of the Institute of British Architects, which appeared in your last Number of the *Architectural Magazine* (p. 309.), was calculated to excite, but not ultimately to satisfy, the hopes of many of your readers. A Society formed for the pursuit of such objects, and aided by the support of so many individuals of professional reputation, as that in question, cannot fail to interest every lover of the science which it is designed to promote, and every one especially who is engaged in the practical application of that science. Aware that several attempts had been made, within the last two years, to establish in London societies for the cultivation of architecture, and that among these the "Institute" under notice had, at an early period, sought a union with some others upon a less restricted plan, I was led to hope that the result might have been the formation of an Institution based upon such liberal principles as would meet the wants and existing constitution of the profession, no less than they tended to the improvement of the public taste and works. From that hearty expression of your good wishes, also, which introduces your notice of the proceedings of this Society, many of your readers would, probably, be led to expect that such a hope was now realised. I find, however, upon turning to the "Address and Regulations of the Institute," that the chief original obstacle to its general efficiency still remains unremoved; and knowing, as I do, Sir, that if you err at all in the expression of your opinion, it is rarely on the side of a monopoly of information, or restriction of privilege, I feel assured that you will, upon examination, agree with me, that it is highly desirable that such a barrier to the utility of the Institution should be speedily overthrown. I allude especially to that regulation which has given rise to so much controversy, and by which any architect is disqualified for continuing in union with the Society, who shall "engage in the measurement, valuation, and estimation of any works undertaken, or proposed to be undertaken, by any building artificer, except such as are proposed to be executed, or have been executed, under the member's own designs or directions." By this clause, all those who practise under the joint appellation of architect and surveyor are excluded from a participation in the advantages of the Institution, which are thus confined, or intended to be confined, to those who practise solely as architects. *Intended to be confined,* I repeat; for, after all, it does not appear that this distinction is quite as efficient as it is invidious. I am greatly misinformed, if a considerable number of those who now stand in connexion with that Institution are not notoriously engaged in the measurement and valuation of works for builders, in opposition to this disqualifying clause; while, at the same time, I know of more instances than one, wherein professional men of eminence, and *not* so engaged for builders, refuse to cooperate with the Institution, from the persuasion of the unfitness of any such exclusive regulation. Upon the agitation of this subject, some time past, between the Society in question, at an early period of its existence, and that of the architects and surveyors then meeting at Freemason's Hall, the opinion of Sir John Soane was obtained upon this principle of disqualification, which was to the following effect, as given in a statement of the controversy published by the latter body: — "That he had himself measured for builders by the express advice of Messrs. Dance and Holland, two of the most celebrated architects of their day; that, so far from considering the practice disreputable, he believed measuring to be the stepping-stone to professional knowledge, and very frequently the only means by which the young practitioner could obtain a livelihood." So much for the sentiments of one to whose munificence the Institute of British Architects has been recently so much indebted, and to whom none will question the especially fit application of the name of an architect. The statement just referred to, as put forth by the then existing Society of Architects and Surveyors, goes on to urge, with much justice, "that measuring is, and has always been, one of the sources of introduction to the members of the profession in early life; that, if fairly and honourably applied, it is a means that may be adopted for the general advantage of both employer and builder; that, in cases of reference, it is the only means that can be applied for determining disputes; and that the adoption of such a clause (as that of disqualification before noticed) would shut out many of the most honourable and respectable members of the profession." In short, any distinction between the mere architect and the architect and surveyor is inconvenient, if not absolutely impracticable, though we may be disposed to allow that, for the preservation of the integrity of an architectural institution, it may not be advisable to admit indiscriminately mere land-surveyors and builders. The selectness and respectability of such a body would be amply secured by the other rules of qualification, and more especially by the exercise of the ballot, in which the Institute in question now requires the favourable suffrages of a proportion of four fifths. I am satisfied that such a modification of existing regulations can alone render the Institute so available as the friends of architecture must heartily desire to see it become. — *T. London, July* 9. 1835.

Competition Plans. — On reading your remarks on this subject (in Vol. I. p. 378.), soon after their publication, I purposed answering the call, but excess of occupation induced a postponement from time to time, to an anticipated moment of more leisure, which, instead of arriving, has been gradually receding further into futurity.

The recent report of the Parliamentary Committee, recommending the authorising of government to advertise for plans for rebuilding the Houses of Lords and Commons, proves a sufficient makeweight to overcome all my motives for delay, and bring fresh to my recollection the transactions of twenty-three years past, when government advertised for plans for building the Milbank Penitentiary House.

My habitual aversion to join in the propagation of unfavourable reports, especially of the dead, yields, in the present instance, to a sense of public duty, by which I am induced to suspend for a moment my private interest, and to lay before the public a case in which a former ministry was charged with dishonestly advertising for plans, when no intention existed of remunerating the successful candidates; and thus I may be instrumental in guarding architects against indulging expectations which may be disappointed.

On February 13. 1812, an advertisement appeared in the *Morning Chronicle* London newspaper, offering premiums of 200*l.* for the best plan of a Penitentiary House, for securing, employing, and reforming of 400 prisoners, half males and half females; with provisions for additions for the reception of greater numbers; 100*l.* for the next in merit; and 50*l.* for the third; and it was stated that particulars of the requirements might be had at His Majesty's State Paper Office.

I applied at the office on the 15th of the same month, and attended on some following days, when I obtained a specification of particulars, with leave to take a copy of a map of the ground, which I took: I also joined other competitors, in soliciting of the Secretary of State an extension of the time for delivering in of plans from March 25. to May 1. in that year. The absurdity of allowing only forty days for preparing plans of such magnitude was placed in so strong a light, that thirty-six more days were conceded to our importunity.

Feeling that I had many useful views on the subject of penitentiary arrangements and discipline, and that I could give a plan that should possess several very important points, and facilities for the security and improvement of prisoners, founded on twenty years' study and frequent inspections of prisons in various countries, I spent nearly 100*l.* in preparing a plan for the competition; and, in order to make it more perfect as to practical detail, I procured an introduction to the late Sir George Onesiphorus Paul, Bart., the bosom friend of the philanthropic John Howard, and the indefatigable promoter of the penitentiary system, in the various prisons of the county of Gloucester, and elsewhere.

Sir George being from home, I followed and found him on a visit at Lord Ducie's in Gloucestershire. He heard my business, and immediately advised me to spend no more time on the subject, as there was not the least chance of the candidates obtaining any remuneration; because the architect was already appointed, and the plans would be culled by him of their best points to perfect his own: that he, Sir George Paul, had strongly remonstrated with Mr. Percival, the then Prime Minister, against the iniquity of the procedure, in occasioning a great number of professional men to spend their talents, time, and money on a fruitless pursuit, from which they could gain nothing but disappointment.

I thanked Sir George for the information; but stated that, as I had incurred so much expense, I would finish my plan and drawings, and send them in, in order that the public might have an opportunity of receiving the benefit of any new and useful points, which I might have struck out. I therefore begged that he would enter into my views, and give me the advantage of his experience; to which he very kindly consented, and stated at large the difficulties which his long course of observation had enabled him to perceive, and in part to overcome.

In order that I might have every practical advantage, Sir George gave me introductions to the keepers of several gaols in Gloucestershire, and recommended me to the particular attentions of Col. Cunningham, the governor, and the Rev. Mr. Evans, the chaplain, of the county penitentiary, where the best system then known was carried into effect; and both those gentlemen entered warmly into my views, and afforded me every facility for minutely inspecting the buildings, arrangements, and management, almost daily, for nearly three weeks; giving me free ingress and egress at all hours of the day, with liberty to question the assistants on any practical points.

I must confess, however, that I could not proceed in my undertaking so ardently as I had commenced it: the information of Mr. Percival's misconduct disgusted me, and nothing but the desire of rendering service to the public sustained my efforts in the after progress. I therefore did not finish the plan in all its details, but sent it in to the Secretary of State, on May 1., as containing the main features of my conceptions, and stated it to be my contribution to the common stock of knowledge on the subject, without any hope of a premium.

On June 19. in the same year, the following advertisement appeared in the *Morning Chronicle:* — "The premiums proposed by the Secretary of State for the Home Department, for the three most approved plans of a Penitentiary House for male and female convicts, have been adjudged as follows: to the plan marked Z. Z. Z., the first premium; to the plan marked Philo Dædalus, the second premium; to the plan marked Delectat et Ornat, the third premium. The other candidates may receive back their plans, with the sealed letters, from the State Paper Office, previously to the 30th instant, between eleven and four o'clock, by delivering a motto or mark like those on the drawings, written by the same person. Secretary of State's Office." On the same day I sent for and received my plans and drawings.

Whether the plans respectively marked Z. Z. Z., Philo Dædalus, and Delectat et Ornat, were the productions of *bonâ fide* candidates, or were fabricated variations of the appointed architect's plan, is, perhaps, not easy to be ascertained; but if any one of the three has actually received a premium in the way of fair competition, he will do rightly to avow the same publicly, attested by his name, to the end that Mr. Percival's memory may be cleared from a portion of the obloquy which Sir George Paul's allegations attach to it.

Not having inspected the interior of the Milbank Penitentiary, I am not aware that any part of my plan has been copied, except the omission over the gates of all insignia of a prison, and the placing of the single word "Penitentiary" conspicuously in front. I do not pretend to say that the architect had not himself previously thought of that then novelty, in distinguishing penitentiary houses from common prisons; for I well know that different persons, studying for a given end, often hit upon the same means; yet I am always put in mind of my own plan, when I look at the front of the Milbank Penitentiary.

It is my intention, as soon as I can spare time, to furnish you with some of the leading features of my plan, which offers the means of reformation rather than of punishment; and which multiplies facilities for elevating the moral feelings by rational exercise, instead of degrading all the principles of action by the demoralising agency of fear, the fruitful source of most of the evils which afflict society. — *John Isaac Hawkins. Pancras Vale, near Hampstead, June* 12. 1835.

Competition Plans for the Licensed Victuallers. — The licensed victuallers have recently advertised for designs for rebuilding their school in Kennington Lane; and, upon applying for the particulars, a printed schedule was put into my hand, with a verbal statement that the committee intended to act upon the principles set forth in the resolutions of the Building Committee of the House of Lords. Upon making some enquiry, however, I find this is not exactly the case. In the first place, I am informed that one person alone leads the committee; that he has the entire management of the affair; and that he pretends to a knowledge of architecture sufficient to decide upon all concerns relating to the new building; in the next place, the schedule of the rooms mentioned is not sufficient for the purpose; and, in the third place, the successful candidate is not to be the architect employed to superintend the building unless the committee (or the leader) should think fit. This sort of resolution I think injurious to the competition, and decidedly injurious to the successful architect's design; for I think it quite impossible for one architect to carry another architect's designs into execution; their ideas, as to detail, may be, and are, most likely, of quite an opposite description, and the superintending architect may put any sort of detail into the building; some of which may be quite opposite to the style. Suppose, for instance, the design approved should be Gothic, and the superintending architect should be a disciple of the Grecian school; the errors would be most gross, and the man of ability would be condemned for a want of knowledge.

Another *trifling* absurdity strikes me with reference to the committee: supposing they were not led by one person, they are known to be utterly incompetent to judge of the merits of architecture. No doubt they are all excellent men, and worthy members of society; but their education not having been an architectural one, probably they have no idea of a plan; and the only difference they will be able to find between Grecian and Gothic architecture is, that one has pointed arches, and the other columns and porticoes. When such men are required to distinguish between orders or styles, they will find they cannot: and how is it to be expected they can, when their whole lives have been otherwise occupied? I am sorry to say that building committees do not sufficiently consider the importance of their duties. If the Institution were threatened with an action at law, they would apply to a lawyer, they would not act for themselves, and run the chance of losing their cause: then why not seek professional advice when they are going to build, and not run the chance of losing their money? In this case, where thousands are at stake, it is surely better to sacrifice a few pounds at first than to incur the risk of being duped and laughed at.

Suppose, in committees of this kind, where the members must acknowledge themselves ignorant of the subject, they were to form a sub-committee of three professional men, of known abilities, to decide, and report to the general committee the reasons for their decision; to analyse and scrutinise every design; and to form a very copious and comprehensive report in writing, which should be afterwards printed and published. If this task were performed by professional men, and they were paid, and well paid too, for their opinions, they would not risk their reputations by an unfair proceeding. Even when the opinions were published, a short time should be given, that the unsuccessful candidates might have an opportunity of refuting the opinions given against them, if necessary: this would give satisfaction to all parties; it would excite emulation, and would be a means of propagating a general knowledge of architecture, and of obtaining buildings which would be ornaments to the country. This never can be done by committees, unless assisted by professional men. Architecture is not a science to be learnt in a short time; it requires close application for years; nay, it is a study of a life: then how can any men, whose avocations are of so different a nature, be able to give a critical opinion on the plans submitted to them; at least, such an opinion as ought to be given on competition drawings; that is, one founded on utility, fitness, and harmony in design, and a knowledge of materials and the principles of construction? — *An Architect. London, June* 22. 1835.

Mr. Lamb's Villa. (p. 257.) — I am very much surprised to find that architects, even of considerable abilities, will not pay proper attention to the practicability of their designs, or contrive them so that they may be easily carried into effect. It is not mere pictorial display that constitutes the architect; it requires also a good practical knowledge of construction, of the detail and minutiæ, without which he can be only styled an artist. It is the section that puts the abilities of the architect, and the practicability of his design, to the test; and, from the want of sections, employers are not only too frequently put to a ruinous expense, but the failure of the building often ensues. I respectfully submit to you, Sir, that no design ought to be admitted into your Magazine without one or two sections for it being given.

It is at all times painful to criticise the works of a talented contributor; but if architects will appear before the public as authors, and that in a work like yours, which is so connected with the profession, and which they must know will come under the scrutinising eye of most of their brethren, they must submit to any remarks that may be made upon them, pointing out their defects, their absurdities, and where improvements may be made. I trust your talented contributor, Mr. Lamb, will pardon me in making a few remarks upon his design for a villa in the style of the thirteenth century. I do not think that the style is adapted to domestic buildings; and I will presently show that there is a want of accommodation in Mr. Lamb's design, on account of his adapting his villa to that style. It is not my intention to enter into an examination of the external appearance, which is very picturesque, and very delusive to the inexperienced; but it is to the internal accommodation, as a residence of a family, that I wish to direct attention. The ground floor is well arranged, both as regards effect and appearance, and I may also say comfort: we have a very grand saloon, and a very noble staircase; but for what purpose the latter is intended, I am at a loss to divine, or to guess to where it is to lead. Can it be believed that such a staircase is intended to lead to an attic story, containing only two or three rooms, constructed in the roof? yet such is the case. Refer to the elevation, ground plan, designs, and remarks of the author, and then mark my observations. Where are the bed-rooms indicated? A room, it is said, may be constructed over *d*; but, to give effect to the room below, it must be made in the roof: over *e* a room may be similarly made; but to get into it you must pass through the room over *d*, which renders the room over *e* only fit for a dressing-room. This is inevitable, as you cannot pass from a lobby similar to that at *g*, on the ground floor; for we have a gutter between two gable roofs. Then, over the dining-room (*h*), I am doubtful if any room at all can be constructed, if you refer to fig. 133., and perceive what kind of ceiling it has, and which is intended to represent the roof: besides, if this room be not very lofty, it will have a decidedly bad effect. Over the library no room is intended to be made (see p. 265.), nor over the entrance hall, though a small room may be constructed in the roof over *f*. Thus, you will perceive, that there are only two bed-rooms indicated; one, with a dressing room, over *d* and *e*, and another over *f*; and if these two rooms were constructed, I think the architect would come in for his share of the displeasure of the master and mistress of the mansion, on a cold frosty night, or after a hot summer's day, which would render the rooms like an oven; while, in winter, they would be like an ice-house. Putting up, however, with all these inconveniences for the master and mistress, where are the servants and the rest of the family to sleep? Here we have a mansion, which, from its external appearance, and its accommodation on the ground floor, cannot cost less than from 3000*l*. to 4000*l*., without any accommodation in that most essential part of the house, the chamber floor. I strongly suspect that your contributor discovered his error when too late; for, in p. 269., he says, "We shall not have occasion to go up stairs, as the general appearance of the bed-rooms (?) should be such as will be perfectly in character with that of the rooms below." If he had made a section of the building, both you and he would have discovered the want of accommodation. Pardon me for relating a case which I think in point: — A very talented artist was employed to make a set of designs for building a villa in the Elizabethan style, not many miles from London. The designs were very pretty, and attracted the employer's attention, who was so much pleased with them, that they were adopted, and the building was commenced. When it was covered in, and not till then, it was discovered that the entrances into most of the bed-rooms were through doorways 4 ft. high; and that this could not be prevented, on account of the gabled roofs and gutters. The building was, consequently, obliged to be altered, and the roof taken off and raised, of course at an enormous expense. This has brought on a very expensive and ruinous law proceeding between the architect and his employer. I trust you will pardon me for intruding on your pages; but I have done so in the hopes of teaching the amateur not to be misled by pictorial display, but to take care to examine into the practicability of a design before he orders it to be carried into execution; and, above all, to allow no part of the building to be commenced, until two or three sections of it have been made. — *Scrutator*. *London, June*, 1835.

Sir John Soane's Library. — Your correspondent, Candidus (a very inappropriate cognomen for such a writer), has manifested not a little ill-nature and unfairness towards Sir John Soane, in his last communication to your useful periodical. I have neither time nor inclination to reply to, or controvert, all his remarks; but the readers of the *Architectural Magazine* will not place much reliance on such a writer in future, when they are assured that his assertions respecting books "not to be found on the bookshelves" of the Soane library, are false. I believe that all the works there enumerated are in the glazed mahogany bookcases (not "bookshelves") of Sir John's extensive and truly valuable architectural library, which also contains numerous volumes of original manuscripts and drawings, by foreign and English architects: these, of course, are unique. The collection, indeed, I believe, is the most comprehensive, the most extensive and valuable, in literary and graphic publications, of any in England, and, it is presumed, in Europe. Every public character and public work is a legitimate object for fair gentlemanly criticism; and is also subjected to the petty, envious, and false misrepresentation of anonymous writers: but the latter can only influence congenial minds; they excite the pity, and almost contempt, of the philosopher and discriminating reader. — *J. Britton. London, June* 22. 1835.

Arbroath Pavement. — You will observe that, in my advertisements of the Arbroath pavement, I have added a guarantee of the capabilities of our stone of resisting frost. I have been induced to do so, in consequence of the doubt implied on this head in your last Number. There has been much misapprehension and misrepresentation regarding the properties of the Arbroath pavement in this respect, which I conceive to have arisen from the following causes: — When this stone is first taken from the quarry, when it is green, or, as our quarrymen say, when it has its *natural sap* in it, it is remarkably liable to be injured by frost. When in this state, a single night's frost will split it into exceedingly thin lamina; or, adopting a phrase in familiar use here, it becomes like a pack of cards. To the same cause, which, after it is cured, renders our stone so impervious to moisture, is owing, I conceive, this property. The moisture, by vast pressure, during a lapse of ages, has been forced into the minute pores of the stone; these pores being almost infinitely small, when compared with those which exist in the coarser sandstones. Why these pores are smaller is, I think, owing to the circumstance of this stone being always found alternating, in thin strata, with thick beds of argillaceous matter in a very pure state. The very finest particles of this have commingled with the ingredients of the stone at the very moment of formation. The specific gravity is 2·50, while that of Craigleith is 2·44, Cullalo 2·28, Hailes 2·40. With a view of throwing some light on this subject, I have been of late making a few experiments, which, however, are as yet in a very unadvanced state. I took a piece of stone fresh from the quarry; with the sap in, it weighed 3 lb. 9 oz.; in 12 hours' exposure to the weather it lost 1½ oz.; being then baked, it lost 1 oz. more; being then immersed in water for 48 hours, it had recovered only half an ounce of weight. I propose continuing these experiments by exposing the stone to a freezing mixture at each stage, and by sinking it to a great depth in the sea, or otherwise obtaining a great pressure, to ascertain whether the original or a greater weight be obtainable; and whether the liability to injury by frost will reappear. In the mean time, if you think the subject sufficiently interesting, and would point out any better course of proceeding, you would greatly oblige me. When a flagstone, squared for the market, is quarried in the morning, it has a band of from 2 in. to 3 in. all round its edges, cured, and not liable to frost, before night: when this, therefore, supervenes, the whole interior surface is affected; but if the cold be not very intense, it merely swells up, and sinks flat again on the return of warm weather. In this state the stone is useless for every thing but to sell: the most practised mason cannot, without cutting through it, discover the evil. When building is in a prosperous state, the quarriers are induced to begin too soon in the season, and to work too late. Hence a great deal of stone is sent to market in a spoiled state; and the fraud is, perhaps, not discovered for a year or two, when the uppermost card in the pack wears through, and the stone is pronounced to be scaly and bad. Hence I am confident that the use of this excellent stone has been greatly abridged by the abuse of it. From enquiries I have made, I understand the Yorkshire flagstone is in a less degree similarly constituted. If exposed to hard frost before it were properly "fettled," a Yorkshireman told me it would be spoiled. I should be very glad if you would give the results of your own experience in this matter, or draw the attention of some of your correspondents to it. The ease with which the sap is expelled strikes me as something remarkable. Two or three summer days, at most, is sufficient to cure thoroughly any stone under 4 in. thick; or a short immersion in boiling water answers the same end. This had led to speculations, on our part, of the feasibility of working through the winter months, by some application of a heating or evaporating process.

From some calculations and experiments made lately, at the desire of the committee on machinery of the Highland Society, it resulted that, in the case of a very large stone, 60 superficial feet, previously squared, and then planed by the machinery, the advantage obtained, as comparing the cost of doing the the same work by hand, was as upwards of 30 to 1. — *W. D. Lindsay Carnegie. Kimblethmont, June* 24. 1835.

Art. II. *Queries and Answers.*

The Construction of Roman Walls. — In reply to Juvenis (p. 191.), it may be necessary first to state, that the weight of the materials of which a wall is composed (particularly when stone is used) has not unfrequently been known to crush that wall down; therefore it is desirable to lessen the weight of the work as much as possible, when it can be done, without diminishing its strength. Holes or arches turned in the wall would certainly tend to effect these ends; and another advantage gained by the Romans was, the consumption of less materials than would have been the case had their work been solid. Arches in a wall will not only relieve the under parts from pressure, inasmuch as a mass of material is dispensed with, but will, if scientifically arranged and constructed, increase the strength of the whole work. — *Samuel Ap-Ifan. Neath, Glamorganshire, June* 9. 1835.

Beaumont's Fire-proof Buildings. — In a review of Beaumont's work on fire-proof buildings, mention is made of one flue 12 in. by 12 in., traversing the room once, and then ascending the party wall; and that this was found sufficient for well warming the apartment. Will you be so kind as to mention the intervals between the channels which would be necessary to effect that purpose? Likewise, may I ask for a description of the fireplace and the method of its communication with the channel? From what I had before read on the subject, I concluded that they were warmed by hot air from the fire; but in p. 125. are the words "smoke flues." How is it that "the fires may be kept up by cinders only?" By answering these little questions, when you have space, you will much oblige — *O. July*, 1835.

The statement, as to the flues in the County Fire Office, rests on the authority of the author of the pamphlet; that respecting fires being kept up by means of cinders is ours; and we reassert, what surely every one knows, that fires of cinders are in common use for heating hot-house flues, and for many similar purposes. — *Cond.*

A Roof suitable for the Birmingham Town Hall. — I wish your Dublin correspondent, R. M. (Vol. I. p. 380.), would favour your work with a design of a roof which he thinks would be suitable for the Birmingham Town Hall. It would oblige me very much; and I will also send you the drawing of the roof actually put on. Publicity on a question of so much importance as the safety of such a building cannot be too extensive; and I am most anxious for it. It would, indeed, be highly culpable in me to wish this matter passed over without severe scrutiny. — *Joseph Hansom. Hinckley, June* 4. 1835.

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SEPTEMBER, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *Remarks on the Resolutions adopted by the Committees of the Houses of Lords and Commons for rebuilding the Houses of Parliament, particularly with Reference to their dictating the Style to be adopted.* By Charles Fowler, Esq. Architect.

The erection of the New Houses of Parliament must be universally deemed a subject of great national interest and importance, from the splendid opportunity it is calculated to afford for the developement of genius, and the exercise of the arts and sciences: the following remarks, therefore, however imperfect, it is to be hoped, may be worthy of the attention of all those who take an interest in our national works; and particularly of the members of the government and the legislature, under whose authority and auspices this great work will be carried on.

It may be truly said, that architecture embraces the whole range of arts and sciences; since it gives employment to all, from the humblest labourer and mechanic, to the most talented artist, and, at the same time, renders available the results of the profound researches of the philosopher; an extensive work, therefore, such as is now contemplated, should call forth all those powers, and combine the highest excellences of every kind, which have been attained by modern cultivation and improvements.

Under these considerations it becomes a matter of anxious importance, that the measures taken preparatory to obtaining designs for the intended edifices should be judiciously directed towards the attainment of the grand result to which the public will look; and that no obstacles should be thrown in the way of that free exercise of skill and genius in forming the design, which is essential to their proper developement; for it may be justly said with respect to the arts, what is universally known in matters of trade, that restraint or interference, particularly of a legislative kind, is always injurious.

It was truly gratifying to learn that the government had, on this occasion, abandoned their usual and exclusive system of confining themselves to one appointed architect; and that the legislature had resolved to throw it "upon the country," to prove, by open competition, what are its resources in architectural talent. It is only to be regretted, that the same liberal spirit had not pervaded all the other resolves of the committees of the two Houses of Parliament. It may be alleged, that the true principle upon which instructions for designs should, in all cases, be framed, is, to describe as clearly as possible the objects to be attained, and scrupulously to avoid any dictation as to the mode of effecting them: for the latter can only proceed from some preconceived notions of plan and arrangement, and is, therefore, so far incompatible with the unbiassed consideration with which every candidate should enter upon the study of his design; as also with the impartial judgment with which the designs submitted should be considered, by those appointed to decide upon their comparative merits. In looking through the "Resolutions" forming the instructions for the guidance of the candidates in this case, it appears very much as if they arose out of some plan already made; in which the results of many important principles in composition are anticipated, and no room left for the architect to exercise his skill and judgment upon them.

The point to which this remark most forcibly applies is, probably, the determination of the style to be either Gothic or Elizabethan; and upon this it may be well to make some further observations. The proper excellence of architecture is that which results from its suitableness to the occasion, and the beauties growing out of the arrangement as applied to convenience, locality, &c.; and this principle, rightly pursued, leads to *originality*, without the affectation of *novelty:* but, on the contrary, the prevailing practice is, to set out with the imitation of some approved example, which is implicitly followed, in details at least, without regard to those primary considerations before adverted to; and the consequence is, that the present enlightened epoch in architecture is wofully distinguished as having no character of its own, nor any pretensions beyond that of adopting the various styles that have prevailed in all ages and nations, without regard to the difference of the circumstances upon which they are founded. An architect in the present day is liable to be condemned without mercy, who cannot quote an authority for what he does; or, rather, who cannot show whence he copied the details, if not the composition, which he has ventured to put forth. Surely this is not acting in the spirit of the ancients, nor is it likely to advance the excellence of the moderns; but such, nevertheless, appears to be the tendency of the instructions upon which the new Houses of Parliament are required to be designed.

The choice of the Gothic style, it must be presumed, arises from the circumstance of the site being connected with one important structure of that kind, and being so near another of still greater magnitude. It might have been supposed, that the experiment made by Wyatt, to combine modern Gothic with Westminster Hall, would have been deemed sufficient; for, although his effort on that occasion was not one of the best, still it might have served to show, that a combination of small parts, even if extended to a vast whole, must in effect be doomed to insignificance, by the disparaging comparison which the Abbey and Hall will always provoke. It must be evident, that, in the Gothic style, the intended structure cannot aspire to more than a third-rate character, when associated with two such commanding edifices; and it is liable to beget contempt, from its obvious pretensions to rival them in a style which is so peculiarly their own; besides that, it will give to the new building the appearance of being merely an appendage to Westminster Hall.

The Gothic or pointed style may be considered, in the present age, as properly ecclesiastic or collegiate; its details are happily adapted to buildings of that description, and the associations are all in their favour: but, for a Senate House, what are its recommendations? If the interior be finished consistently, it must lead to cumbersome and expensive details, incompatible with simplicity of construction, and quite out of character with the plain business purposes to which so large a portion of the building will be devoted. Even in the more stately parts, the style is in nowise associated with the objects and arrangements, and is, therefore, liable to lead to gross anomalies and excessive expense.

If it may not be deemed invidious, one might refer for illustration to a modern Gothic structure, recently erected in the same neighbourhood (as far as relates to the choice of style, but not the architect's skill in treating it); and it would, at least, be merciful to modern architects, not to compel them to raise Gothic designs in the immediate vicinity of Westminster Hall and Abbey.

Whatever truth there may be in the foregoing observations, with respect to the *Gothic style*, they will apply with still more force to that which it has been the fashion of late to call *Elizabethan*, of which, therefore, but little need be said, further than that it has the unfortunate qualities inherent in a state of transition from the pointed style of the middle ages, to the revival of the ancient Italian architecture. The most eminent examples of this kind which exist serve to show, that, in an age when liberal patronage abounded, and vast sums were expended in the erection of stately mansions, the taste of the architect often shone through the obscurity of the style, and rose superior to the prevailing fashion in which he was compelled to work; so that the grandeur and disposition of the whole, atoned for the meanness and deformity of the parts. But that such a period should now be held up for imitation, and that such a style should, in this enlightened age, be gravely proposed for a national edifice of such great magnitude and importance, appears most unaccountable, and must excite the astonishment of men of taste throughout Europe.

It is not to be expected, that these strictures will have the effect of effacing the predilection which unfortunately prevails amongst many liberal patrons of art, in favour of this mixed and intermediate style of architecture; but, having endeavoured to put the subject in its true light, it must needs be left to the common fate of all such matters, agreeably to the universal maxim "*De gustibus*," &c.: it is to be hoped, however, that upon the same established principle, which tends to leave all such things *open and undefined;* and upon the further principle originally adopted, of dealing with this subject in the most liberal manner; the noble and honourable personages who have originated this measure in Parliament, and the commissioners appointed by His Majesty to carry it forward, will be induced to reconsider those points embodied in their instructions, tending to fetter the taste and judgment of the candidates in the composition of their designs; for, unless freed from such restraint, a fair field will not be afforded for the display of natural talent, nor is the competition calculated to produce those satisfactory results which the world at large will look for, and this nation has a right to expect.

Gordon Square, July 30. 1835.

ART. II. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. JAMES ANDERSON.

(*Continued from* p. 342.)

ALTHOUGH I have had occasion to show, in the foregoing parts of this essay, that that species of building called Gothic had been invented for the purpose of obtaining magnificent places of worship, of materials that were little liable to be injured by the sudden irruptions of uncivilised barbarians; and that all the devices which the artists adopted were solely calculated to effect these purposes, and none other; and that, of course, it should be called only the architecture of a church, or cathedral architecture; yet, in compliance with a custom that is too common, and which deserves to be reprehended, it has obtained the name of the *Gothic style of architecture;* and, as if it had been a general system, instead of a peculiar application of scientifical principles to a particular department of art, attempts have been made, similar in kind to those which I had occasion to criticise in my last respecting the Grecian colonnade, to extend these principles to other departments of art to which they never could be with the least propriety applied, from which have arisen many immense and incongruous piles that load the surface of the earth as lasting memorials of the imbecility of the human mind in all ages. I have said above, that attempts have been made to extend the *principles* of that art; not because I think the phrase just, but in compliance with the common mode of speaking alike of the Grecian and that species of Gothic architecture, though, in fact, these imitators, losing sight of the true *principle* in both these cases (which was that of effecting the particular purpose required in the easiest, the firmest, and the most elegant manner the artists could devise), have contemplated the forms only which these structures presented to their eyes; and, without understanding the meaning of these forms, they have tried to imitate them in cases where such imitations could produce only incongruities that are reducible to no principle that the understanding can recognise, or a chastened taste approve. In the remarks that follow, then, I am to be understood as having in my eye only those sacred structures, for the perfecting of which the various devices were originally adopted, which constitute the essential characteristics of this species of architecture; and as totally excluding from my view all other buildings in which a ridiculous attempt has been made to introduce without cause, by way of ornament, parts of a similar form, though totally out of their proper place, exactly in the same manner as I was under the necessity of condemning as absurd the innumerable attempts that have been made to prostitute the grand ornaments of the Grecian colonnade to so many base and unworthy purposes. Let us, therefore, no longer hear of a SYSTEM, whether of Grecian or of Gothic architecture; being assured, that every attempt to render that general, which was contrived to answer only a particular purpose, can be productive of nothing but the reverse of an improvement in the arts. Had the contrivers of either of these original kinds of structures proceeded in the same manner as they have done in regard to those they have so far perfected, to devise plans for structures adapted to other purposes than those which they had in view, I can have no doubt that they would have effected it by means very different from those which they did actually adopt.

Having had occasion so lately to show that the Grecian colonnade, when constructed in the manner and for the purposes for which it was originally intended, does not perhaps admit of any rival, we ought not to be surprised, if, in considering the inside of a Gothic cathedral, it should, in like manner, be found to maintain a decided superiority over every other kind of structure that can be brought to bear a competition with it in Europe; especially those that have been intended to cope with it, by an attempt to apply the principles of the Grecian colonnade to that purpose; for, in the former case, every thing was made to give way to *internal* accommodation and sublimity of effect there; whereas the primary object of the first was *external* decoration alone: nor shall I have any difficulty to show that, in this respect, the Gothic structures have a decided superiority over the Grecian. I feel, I must own, a reluctance at being thus induced to step forward as *apparently* the depreciator of an art which I very much admire; but this is only with a view to circumscribe it to its proper and legitimate limits.

The most magnificent specimen of the inside of a church, erected on the Grecian system of architecture, that I know of in Britain, is St. Paul's Church in London; and, although Westminster Abbey is not so perfect in its kind as many other specimens of that mode of architecture, and is besides so much disfigured by a variety of extraneous incumbrances as to detract greatly from its general effect; yet even in its present corrupted state, though greatly fallen, it still rises proudly eminent, and seems to be (as in the language of Milton) " not less than archangel ruined;" so that as those who have not an opportunity of visiting more perfect structures of the kind may, from it, form some idea of the kind of sensation which that species of structures is calculated to excite, I shall, on account of its proximity to the other, employ it for the purpose of illustration. Let any person, then, who has never thought of such structures, enter the one or the other of these churches by the west door; and, after the first surprise, excited by the novelty and magnitude of the objects, has a little subsided, let him candidly attend to the nature of the sensations that they severally excite. In that case, I shall be very much deceived if he does not confess, that in Westminster he feels a light and exhilarating sensation that tends to elevate and expand the mind, and exalt it to a kind of sublimity of perception that makes him rise, as it were, from the earth, and expand and fill the ample space around him. The eye, whichever way it is turned, sees an amplitude of space so distinctly marked as to be sufficient to enable the mind to measure in idea its extent, without being so much broken as to separate it into parts that cannot be contemplated together. It seems, then, to be one great whole of immense magnitude; which, as it retires backward from the eye, leaves the imagination still to trace, without confusion, an indefinite extent still unseen. In St. Paul's Church, on the contrary, on entering by the west door, the lowness of the roof compared to what the exterior of the building made you expect, and the uniform vault-like appearance which that exhibits; the magnitude and solidity of the pillars that support this ponderous vault, with the puerile pilasters stuck upon them; the closeness which these assume at a small distance, so as to convey the idea of a solid wall, which totally cuts off all idea of space behind it; the gloom which results from the smallness of the windows behind, totally excluded from the eye of the beholder, conjoined with the shade of the massy pillars; all these circumstances combined, tend to impress the mind with a chilling sensation of a burial vault, more fitted for the repose of the dead than the reception of the living. Nor is this sensation abated when the eye is directed to the farther end, where the small window, from the great distance, is contracted into a point; and from the closeness, parallelism, and darkness of the sides, it conveys more truly the idea of looking through a telescope than any thing else; though the light from the dome appears to be a kind of something that is not easy to be accounted for, the parts of it appearing from that view so indistinct as not to be easily recognised.

On advancing under the dome itself, the mind is rather distracted by a variety of sensations than filled with any one sort. If the eye be cast around, the circularity of the dome so ill connects with the straight lines of the other parts of the building, and the massiness of the pillars that support it are so continually broken by their diminutive pilasters, as to render it a matter of no small difficulty to form an idea of the plan; and from the same cause the real magnitude of the building cannot be conceived, as from no position can any thing be seen but parts of the building that do not exactly connect together into a whole. Moreover, the sombre gloom, which even here perpetually prevails, still impresses the mind with an idea of the mansions of the dead, rather than the resort of the living. On looking upwards, the eye is still more distracted by the complication of parts that present themselves in a mass without any claim to preeminence, each seeming to solicit an equal degree of attention: these consist of arches above arches; cornices, architraves, pilasters, off the perpendicular, seeming ready to tumble over your head, should the cement that attaches them to the wall lose its hold; windows, like slits scarcely seen, which admit only just so much light as to make the eyes ache without informing the judgment; pictures which are just enough enlightened to appear as patches of different colours, without being so much seen as even to have their forms distinctly recognised, far less to have their merits appreciated, without the aid of a telescope, which, indeed, could be of no use in that dim light; and, to crown all these puerilities, a glimpse of a distant light is seen through a peep-hole in the top, just calculated to make the ignorant rustic stare, and children admire the raree show: to obtain a glimpse of all which beauties, the curious beholder, if he does not lie down on the floor upon his back, runs a risk of cramping his neck to such a degree as not to find it an easy matter for its muscles to recover their former tone.

From these considerations, I can neither see beauty nor congruity in the inside of this immense pile; and although Michael Angelo Buonarotti, who was doubtless an artist of great eminence, first conceived the idea of elevating a dome upon stilts, for which device I am nothing surprised that he should have claimed some merit, because of the natural partiality that a man entertains for his own inventions; yet I consider this only as one of those aberrations of the mind into which it is apt to fall, even in its most vigorous state, when it is taken, as it were, by surprise, when a novel idea presents itself. The Pantheon at Rome, from which he confessedly borrowed his idea of St. Peter's dome (of which St. Paul's is a professed imitation) is a noble structure, fully enlightened, as I conceive, by the large aperture above; and were it not for the detached tabernacles of columns in the inside, must have completely filled the mind without distracting the imagination in contemplating it: yet it is very easy for any one to conceive, that the sublimity of effect resulting from the fewness of the parts must be entirely lost when it is elevated above the proper reach of the eye, and the bottom part of it, instead of being a uniform unbroken rotunda, is composed only of a congeries of stilts. In this instance, as in most others where a man, let his talents be what they may, becomes an imitator instead of an inventor, and tries to unite incongruities together which are separately beautiful, it happened that a monster was produced that is in all respects inferior to its prototypes. The dome itself, we have seen, was an imitation of the Pantheon of Agrippa; and the raising it to a height from the ground is as obviously an idea borrowed from the central lantern of the Gothic cathedrals. The only thing, then, that was new in this case was, the combining the rotundity and dome at top with the form of the cross below; and to obtain this he was under the necessity of sacrificing the simplicity of form, the smallness of the columns, and the blaze of light which renders this part of the Gothic cathedral so remarkably cheerful and pleasing: for not only do the large windows at each end powerfully illuminate the transept, but the light from the side windows of the church add still to the cheerfulness of it; while the four windows in the sides of the lantern above, descending to near the point of the arch below, and reaching nearly to the flat part of the roof above, gives a degree of illumination there approaching to that in the open air at noon day. This great artist, therefore, had not much reason to plume himself on the excellence of this device; nor ought those persons to be held as blameless who have blindly imitated these defects. But the deference that we naturally pay to the names of those who are deservedly held to be great in other respects, may perhaps be admitted as a sort of apology for men of meaner talents when they shall be thus misled. Another aberration of that great man, originating in an idea of supereminent refinement, occurs in the same structure, in which he has made use of twisted columns; a device that, thus sanctioned, has fascinated the chaste eye of even Raphael Urbin himself, who has introduced them into one of his Cartoons. No man can ever be so perfect as always to avoid errors.

But though I have not hesitated to bring Westminster Abbey as a contrast to St. Paul's Church, London, I am far from wishing the reader to rest satisfied with the idea that he will thus attain of the effect which Gothic cathedrals, internally viewed, are calculated to produce upon the mind when considered as objects of taste; for when you go to the more simple and less encumbered structures of this sort, such as the cathedrals of York, Salisbury, and others of a similar kind, their superiority over St. Peter's, Westminster, is such as to cause it to be instantly recognised that they cannot admit of a comparison. But if even the most perfect structure on the Grecian model that ever was exhibited to the world (and this I conceive to be St. Peter's at Rome, and its imitation, St. Paul's, London) must shrink from the comparison with even this imperfect model, it must tend to exalt those of a more perfect kind to a very high degree of preeminence indeed.

Although it is impossible to convey to any reader, without actual inspection, a competent notion of the full impression that would be produced on his mind by an impartial survey of the inside of these two kinds of buildings, yet he may be easily enabled to form a faint notion of it merely by casting his eye upon the diagram annexed (*fig.* 174.), which represents a plan of part of a church, in which the line *a b* represents the middle of the nave. On the right-hand side

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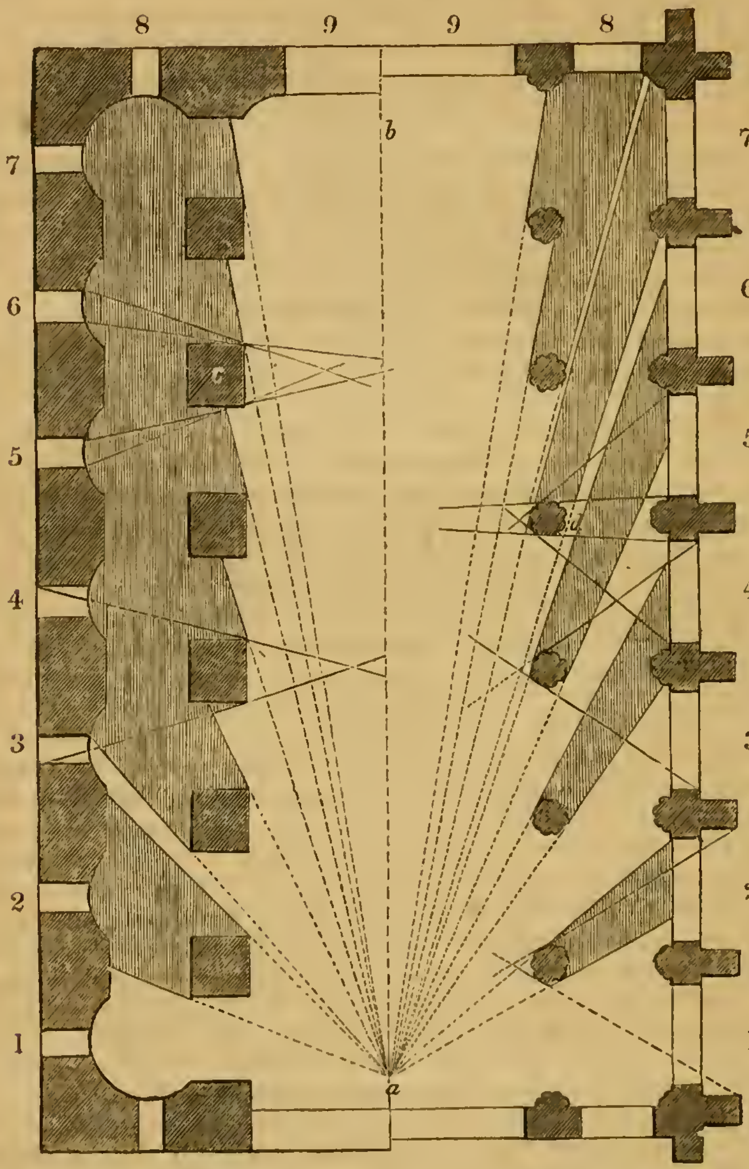

it is distributed nearly in the same manner and proportions as in the west end of the cathedral of York, and on the left-hand side as in the cathedral of St. Paul's, London; with the thickness of the pillars and walls, and dimensions of side windows, nearly in their due proportions respectively.

To conceive an idea of the effect, suppose yourself to be placed at *a* with your face towards *b*. On looking to the right-hand side, and passing the eye successively along from the nearer to the farther end, all those objects that are shaded would be concealed from the view, and those which are left light will be seen. Thus it appears, that the first window is completely seen, the two edges of the second are slightly perceived so as to be distinctly recognised, the third is completely seen, the fourth, fifth, sixth, and eighth are in part seen so as to be all recognised, and the ninth is full in view; so that of the nine windows eight are seen in this position without moving; and the same distinctness must be observable in every other position that can be assumed.

Turn now to the left hand, and, by the same mathematical rule of deciding, you perceive that the first and ninth windows only are fully seen, and the third in part; all the others are totally hidden from the eyes, so that three only of the nine, instead of eight, can be recognised. The eye, too, winds round the slender columns on the right side with an easy and pleasing sensation, and without any effort glides along the shaft upward till it reaches the top, where it follows the beautiful divarication of the ribs that spread under and support the roof with the same ease and increasing pleasure. These ribs, and the groins that unite them, serve as a sort of scale to mark distance, and thus give an idea of extent without effort.

On the other hand, the eye, when turned to the left, meets a row of massy square pillars, which at a little distance appear to be a uniform wall. These are connected by deep, solid, smooth arches, surmounted by an architrave, frieze, and cornice, in one continued line from the beginning to the end, which is crowned by a uniform coved vault; all of which circumstances so totally exclude the idea of space behind, as to make this middle aisle be considered as the whole of the church: a large space is thus, as it were, artificially contracted into a small one; and the imagination is forced to draw a conclusion very short of the reality.

But the evil does not rest here. The windows are so deeply buried in a thick wall, and are besides so far contracted in size, when compared with those on the other side (being, when height and breadth are both taken into the account, less than one fourth part of their size), that they afford but a glimmering of light even upon the side aisles; and the little light that there enters (being intercepted in its passage into the nave by the massy pillars, the deep shade occasioned by each of which extends to the very centre of the nave, as is represented at the pillar *c*) throws upon the whole an impenetrable gloom which the brightest sunshine is not enough to render in any degree cheerful; whereas, on the other side, the shade of the column, as represented at *d*, is so small as to be scarcely perceptible. Even under this point of view, the difference between these two kinds of structures is obviously extremely great. But when we remember that the Gothic nave is at the same time illuminated from above by a double range of spacious windows, that throw an irradiation of light upon the top, which, being reflected downward, gives an equal illumination through every part of the structure that excites a sensation cheerful and exhilarating as the open air, no wonder that every mortal who passes the threshold of such structures feels a pleasurable sensation that he cannot repress, not even excepting the bigoted advocates for the Grecian system, who, in spite of themselves, are forced to confess that these structures, with all their defects, are well calculated to impress the mind with ideas of sublimity and grandeur.

Art. III. *Remarks on Street Architecture.* By Mr. William J. Short, Surveyor.

It is to be deplored that more taste is not shown in our street architecture, by combining the houses together in such a manner as to form a mass of one style, of sufficient consequence to bear some comparison with public buildings; but not to be carried to such an extent as to produce sameness or mannerism. Certainly it will always be a difficult matter to accomplish this, unless some means are adopted to compel persons to erect their houses after one design for particular spots.

The spots, where such masses might be best displayed, would be in the principal streets, or in the neighbourhood of large public buildings already in existence; so that the magnificence of such public buildings might not entirely throw the private ones into the background. Although there are many objections to symmetry in street architecture, as retarding future improvements, unless at a great expense, &c., still, in some spots, a bold design ought to be followed, which could not be the case if left *entirely* to individual taste: though many or all of the houses might be elegant and beautiful, they would not be of sufficient magnitude of themselves to make much impression on the mind. But, at the same time, I do not wish to be considered as recommending the erection of long lines of uniform buildings, but only that such a number of houses should be combined as would be sufficient to produce a whole of some extent, particularly where classical architecture is employed; neither do I see any necessity for the opposite sides or masses of buildings of any portion of a street being made to correspond exactly in every respect. Why should not architects take a lesson from landscape-gardeners, and endeavour to obtain something like the delightful effects and endless variety which they do in laying out walks in pleasure-grounds, by planting out the view in some places, only to give a sudden and bolder effect to more expansive scenery presently afterwards? So, to break the lines of houses at intervals, it might be advisable to place some back, or otherwise, so that occasionally and unexpectedly we might find, in walking the streets, a broad and bold architectural view before us, which would not only relieve the tediousness of a long walk, but impress the observer with favourable feelings towards the buildings themselves.

Waterloo Place, as now finished with the column and the two club houses on each side, is, perhaps, one of the most beautiful gems of street architecture in the metropolis as a whole; although every opposite house in it is not exactly alike; one of the club houses (the principal features in this composition) differing in design from the other; and thus showing, even in this model, not only that individual taste has not been entirely suppressed, but also proving that it is not necessary it should be, under judicious management. But here a great portion of the effect is destroyed, by some of the houses being of a different colour from the others; and although this may appear but a trifling matter, it tends much to diminish the effect, particularly as at this time, in many places, half a column is newly painted white, while the other half is allowed to remain dirty; presenting almost as ridiculous a contrast as a sweep would if cleaned all down one side, while the other side was allowed to remain black. Surely, it would not be considered as trenching too much on the liberty of individuals, if some means were taken to oblige the whole of the inhabitants of a street, where *a design is complete*, as in Waterloo Place, to repaint of one general colour all at the same time. They would certainly find it the cheapest way.

This is a subject worthy the attention of the agents of great house proprietors, as it might be easily inserted as a clause in the leases, under a penalty if neglected, and, I should think, would add to the value of the houses, as their uniform appearance, in this respect, would make them more letable.

Perhaps it may be said, that the bold effect which I have spoken of in the planning of streets would be attended with too great an outlay, without any chance of an adequate return in the shape of rent. So, perhaps, it would, according to the old method; but we all know that tradesmen, wishing to carry on a respectable business, are obliged to take a much larger house than they really require; and consequently are compelled, even in our principal streets, to add to their trades that of a lodging-house, to enable them to pay their enormous rents and taxes.

If shops were placed one above another (that is, on the ground and first floors), at intervals, in some of our best streets, it would not only give the architect a chance of making such a spot a bold feature in his design, but, by having, as it were, two shops, and two distinct residences in one building, would not add to the tradesman's burdens by an increased rent, on the score of being more ornamental than his neighbours in the single shops. And, to add to the grandeur of these particular spots, the other single houses, in the same design, might be even of a more subdued or plainer character than the houses now found in our principal streets.

As the street would be made wider where the double shops are, a covered way might be formed for the lower ones, the ceiling, or flat, of which would be the promenade for the upper ones; and thus, by dividing the population, ladies would then be able to walk the streets and enjoy exercise and air, without being annoyed by the lower class, porters carrying loads, omnibuses, and other nuisances; more particularly as the upper shops would better suit the light fancy trades, such as milliners, jewellers, &c. And as some trades, such as linen-drapers, require more room to show their goods than others, here they might have a lower and an upper shop: this circumstance, of being able to accommodate either a large or small establishment, is in favour of this plan, as it would do away with the necessity of breaking too much the uniformity of street buildings. An architect will see immediately that this would be an excellent situation for exhibiting classical architecture, for he might have an arcade below and a colonnade above, which would be applying columns to a use, and not, as is often the case at present, only as very questionable ornaments. But it may be said, how are persons to cross from one side of the upper street to the other?

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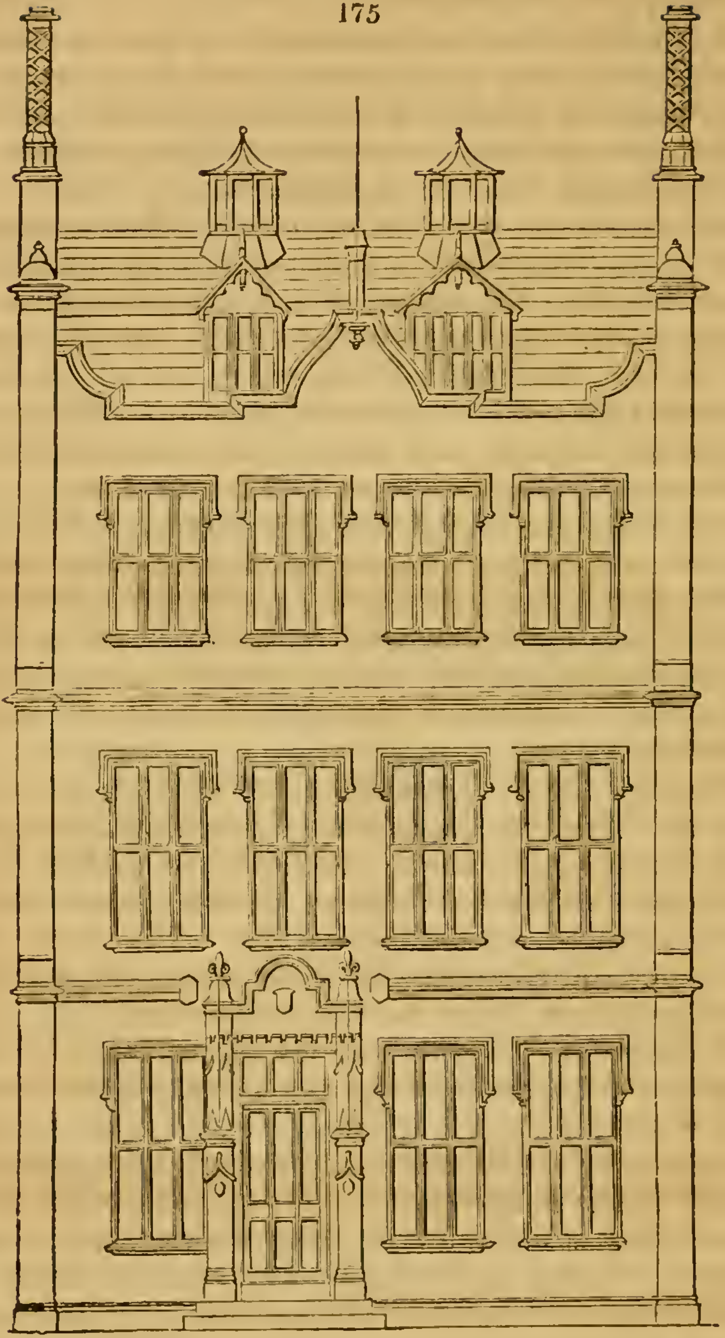

Here we will look to the landscape-gardeners, and may effect the desired end by means of throwing a light arch (it might be very light, as it would only have to carry the weight of a few persons at a time) over the narrowest parts of streets arranged in this manner, and over the streets which intersect them. This would have the effect of breaking the long lines of the buildings, and, at the same time, would leave enough to be seen just to raise the stranger's anticipation, which would, I think, be gratified on passing the bridges; and when he had fully viewed the lower quadrangle, he would only have to go to the upper, to obtain varied, new, and interesting pictures of the whole.

I need not point out, that the bridges might be ornamented, by the colonnade being carried over them, thus completing the whole square, and forming, as viewed down the street, a fine and light screen, and that they also would be desirable spots for placing statues and busts of our great men.

The above plan is capable of many different methods of execution: one, for instance, which would be attended by a very small outlay. By means of a few piers and suspension chains, the bridges and platform might be formed, which platform would be a covering to the lower shops; and to the upper a cover might be made of light design, and materials to correspond with the iron bars and chains: when completed, the whole would bear a great resemblance to a double veranda.

Perhaps, in the secondary or smaller streets, it would be best to adopt the irregular style; that is, each proprietor erecting his house according to his own taste, without any reference to his neighbours; but in this case, as the frontages are so small and narrow, no attempt to use columns should be made, as, under the most judicious arrangement they are capable of, they would be misapplied.

If effect is an object, it can only be obtained, in such small erections, by a tasteful disposition of the doors, windows, &c., and a careful study of details and ornaments; there being no opportunity of displaying masses. Perhaps some sculptured friezes or medallions, of Austin's or any other cheap artificial stone, of chaste design, indicative of the trade or profession of the proprietor, might be beneficially introduced.

Where the irregular method is adopted, it should be followed throughout, no two houses being alike, and, if possible, no two adjoining of one style.

The Elizabethan and Gothic styles might, perhaps, in some cases, be introduced with good effect. There is one very neat example, a private residence in Great James Street, Buckingham Gate, of which the sketch (*fig.* 175.) is an elevation.

10, *Waterloo Place, London, July,* 1835.

ART. IV. *Plans for Rooms, &c.* By W. H. LEEDS, Esq.

(*Continued from* p. 58.)

THE two plans herewith given being for the same purpose as those in the preceding article (figs. 13. and 14., p. 56.), they require no further introductory comment as to the desirableness of studying how to turn what generally occasions great internal blemish, under such circumstances, into novelty and beauty of form.

On comparing the plans here presented with those before shown, they will be found to differ from them very materially, and no less from each other, notwithstanding that they are all adapted to precisely the same purpose; a tolerably sufficient proof, by the by, that, as soon as we begin to depart from the usual routine method, whether such deviation from it be forced upon us by necessity, or adopted through choice, manifold varieties of plans suggest themselves; and, with those of plans, numerous other varieties that almost unavoidably ensue from the former.

The plan of the principal room in *fig.* 176. will, perhaps, be considered not quite so fanciful as either of those shown in figs. 13, 14. (at p. 57, 58.), as it merely converts one end into a semicircle, and, so far, has nothing very uncommon in it. It will, also, be observed, that the semicircle does not display itself externally, and that, in this portion of the plan, there is only a single window; one, moreover, that is not in the centre of the curve. In order, therefore, to obtain a sufficient degree of symmetry, without which the room might almost as well be left with merely one of its angles curved off, it becomes necessary to provide a correspondent feature to the window on the other side of the centre. This would be here effected, not by the position alone of the door into the adjoining room, but by making the

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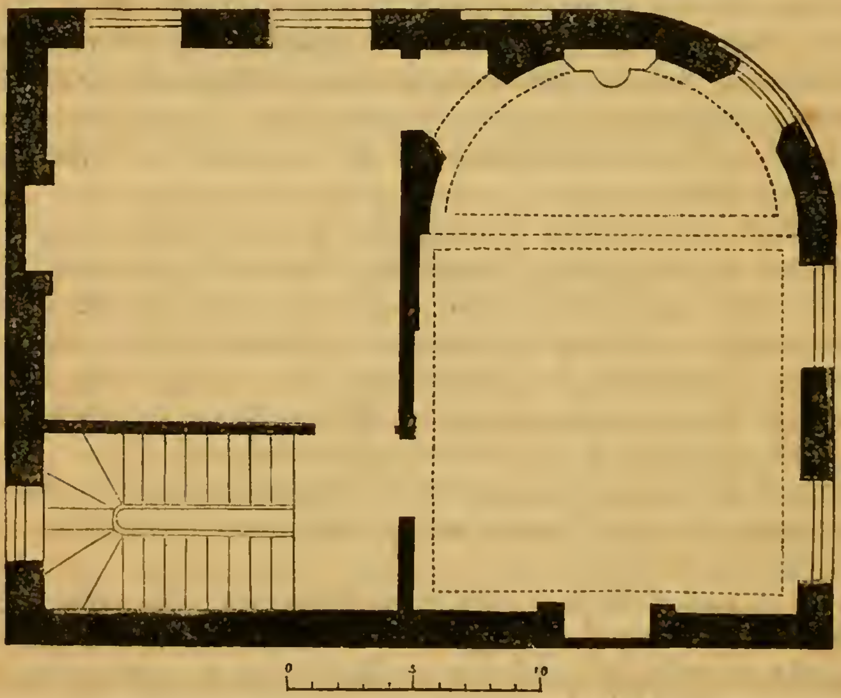

doorcase exactly similar to the window opening, and hanging the door itself so as to leave the same embrasure, or reveal, as the window has. Were nothing else done, an obvious degree of uniformity would thus be obtained; but this might be materially increased by facing the door with mirrors, set in compartments of the same size as the panes in the window; and, also, by draperies. Whether the former were done or not, the latter would be essential; because curtains on one side only of the centre would have an awkward appearance, and occasion a want of balance; and, as the actual door would be much lower than the soffit of the embrasure, there would be sufficient space for even deep cornice drapery above it, without any inconvenience in opening or shutting the door. Having proceeded thus far towards obtaining symmetry, it next becomes desirable to have, not a mere nominal or blank centre, but a positive one; that is, some central object or other between the door and windows: to this end, a sunk panel, or shallow recess, is introduced, to be filled up with a mirror, which could not be fixed on a curved surface; and, below, with some ornamental pedestal, cabinet, or pier table, shaped as shown in the plan, the angles being cut off, and the centre curved outwards. In this piece of furniture the projecting curved part might be a hollow semicylinder, shelved withinside, and made to revolve on a pivot, so that when turned it would be opened; and, externally, this half cylinder might be coated with scagliola, so as to present the appearance of a low marble shaft, or cippus. This shaft might be either insulated or not; but, in the former case, it must be an entire cylinder, with a door on the side towards the wall; or, if this plan were objected to, the recess might be a little widened, so as to allow space for an upright piano. Whichever mode were adopted, a sufficiently important object would be provided, and the symmetry of the whole room the better maintained, because the centre here would balance that formed by the chimneypiece at the opposite end of the room. It would have a good effect, too, were there some slight difference in the height of the ceiling between the curved and square divisions of the room, that over the former being about half a foot lower or higher than the other; for, notwithstanding that there is a slight break in the walls between them, and enriched soffit mouldings would be carried along the ceiling, their limits would be more strongly defined to the eye by such further distinction, and, consequently, the central situation of the folding doors would be rendered more obvious.

These last-mentioned doors now call for some remark, in order to meet objections that will, probably, be started against this part of the plan. Wherefore, some will ask, is not the door from the staircase placed at the angle of the room, thereby leaving all the rest of that side of the room for furniture, and avoiding the expense of folding doors, one half of which is sham? In reply to which it is alleged, that what is here done is in a great measure a matter of actual necessity; for, owing to the situation of the chimneypiece, the door could not have been so placed without great positive inconvenience, as persons sitting by the fire would have been too much disturbed and exposed to draught every time the door was opened, besides the staircase itself being more opened to view than would be exactly desirable. The door must then have swung so as to come in contact with the chair of any one sitting on that side the chimneypiece; or, rather, no one could have possibly occupied a seat there without being subjected to continual annoyance; whereas, at present, not only would the door be so far removed as to leave sufficient space between it and the fireplace, but, as it would be hinged on the side nearest the latter, whenever opened it would screen the " fireside circle." If this be so far admitted as sufficient reason for the actual position (and, in my opinion, it can hardly be disputed), it follows, almost as a matter of course, that the door must be made to assume the appearance of folding doors, otherwise, being neither in the centre nor at one of the angles, it would quite destroy all architectural regularity; and, if it be not worth while to attend to such regularity consistently, and to keep it up throughout, it may as well be dispensed with altogether.

It is quite provoking to observe the slovenly negligence with which, if the slightest difficulty occurs, doors or other features are suffered to mar every principle of symmetry and regularity. A notable instance of this has already been given in fig. 108., Vol. I. p. 226., where the chimneypiece of a breakfast-room is thrust out of the line with the opposite window. I do really believe that far more study is frequently bestowed upon the arrangement alone of a dessert than the architect has given to the room where it is displayed. A dinner is " got up " with as much solicitude as if it were to last for ever, while apartments are, as often, built with no more thought than if they were intended to be pulled down again the next day. In the architecture, what parsimony; in the furniture, what lavish extravagance is frequently displayed! Not long ago, I was in a drawing-room that struck me as exhibiting a singular deficiency of management and contrivance. On the side facing the windows were spacious folding doors, opening into the back drawingroom, and similar folding doors almost adjoining them, one half of which formed the entrance from the staircase. The consequence was, that that side of the room appeared to be nearly all door, there not being more than twelve inches between the two, — a mere strip dividing two separate large features in the apartment.

The effect was all the worse, because the doors and their architraves were painted in imitation of maple, while the walls were hung with deep crimson; so that one side had only three strips of crimson, while the ends of the room and window side (owing to the draperies) presented a glare of colour. A very little study would have overcome this defect; and, instead of its present patchy appearance, the room might have been rendered more uniform in its elevations. But how could this have been done without foregoing the advantage of folding doors between the two drawingrooms? By an expedient so exceedingly simple, that, now the hint is given him, the reader will, probably, hit upon it himself; at all events, I must postpone my explanation of it to some future article.

It would, indeed, be an improvement could the situation of the staircase and the other room be reversed, for then both folds of the door would be *practicable*, and would open into the back drawingroom; yet, as in a house so situated, it is not likely that there could be more than a very confined area behind it, just sufficient to admit light to a staircase, it is better to accommodate the plan to probable difficulties, than to render it nugatory by arbitrarily evading them. There is enough of the *ad lib.* even now.

Between the two rooms there would be double doors with an intermediate space; and, although this might hardly be deemed a positive recommendation, it would not be particularly objectionable, even supposing them both used as drawingrooms; while, if the smaller one were appropriated to the purpose either of a dining-room or bed-chamber, that circumstance would prove rather a convenience than the contrary. Where persons occupy only a first floor of two rooms, it would be a great accommodation to be able to employ both as sitting-rooms, either occasionally or constantly, and still to retain all the comfort of a separate bed-room, without having recourse to such a miserable apology for a bed as either a sofa bed or a turn-up bedstead. An *ambuscade bed*, which may be so formed as to defy suspicion and scrutiny, and so as to enhance rather than detract from the appearance of the room, is free from all the defects and inconveniences of the substitutes just mentioned, where, to say nothing of the trouble attending them, the bedding is so squeezed up and compressed, as to render it almost indispensable to have it remade up before it can be used. I shall explain what I mean by an ambuscade bed at some other opportunity.

In *fig.* 177., instead of the room being at all curtailed by cutting off the corner of the house, it will be seen that it is actually enlarged by the increase given to the angle converted into a bay, and the corresponding one. Here the corner is not curved, but canted off below, and so as to allow a considerable sweep to the pavement at the turning of the street; while the

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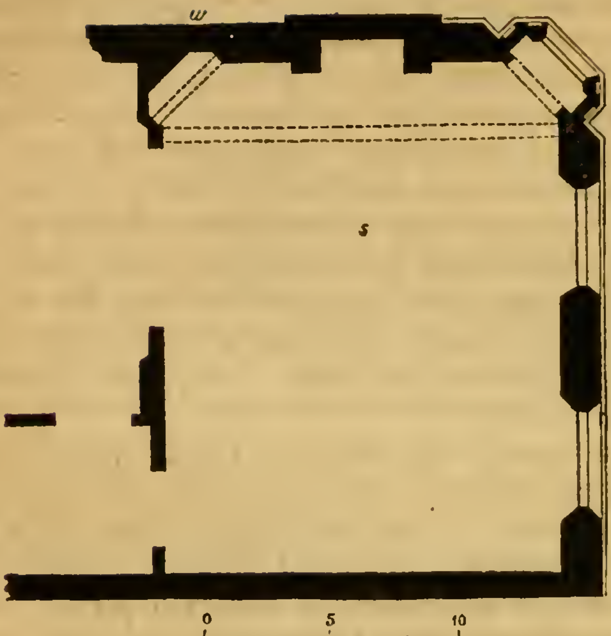


upper splay, or face of the small oriel, is not half the extent. According to the plan, the splay cut off below is 6 ft. 6 in.; but, if more than required, it might be diminished, so as to reduce it even to the width of the face of the oriel, still leaving the plan of the latter exactly as it now is, with all its narrower faces or returns, so as to give greater solidity below, opposed to the play of light and shade above. It is not uncommon for the corner of a shop to be so canted off, while the upper wall overhangs it; but in such cases the effect is anything but agreeable, not even having the merit of being picturesque, while it is decidedly contrary to good architectural construction. Neither is there the advantage here gained — for such I consider it to be, of a diagonal view, from the upper room into the street. By having recourse to the mode here proposed, two or three very material points are secured: the first of these is fitness of architectural expression, combined with some little variety and novelty; the second, that, so far from being contracted, the dimensions of the room are actually extended; and the third, that diversity of aspect and prospect are obtained.

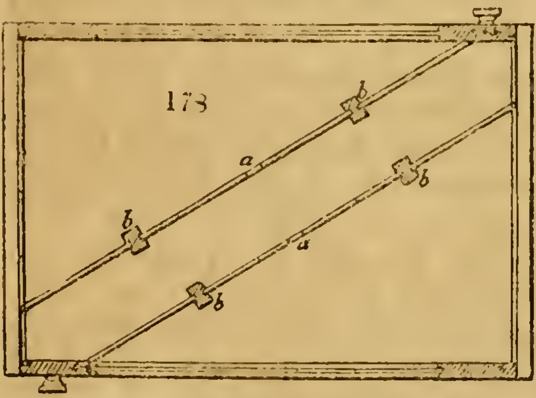
Both for the sake of avoiding the objectionableness of having the fireplace on the side next the angle where the door from the staircase is, and also to have the full advantage of the view from the oriel, the chimneypiece is placed at the further extremity of the room, consequently in one of the outer walls; and although, considered by itself, this may not be the most advisable mode; yet, in cases where, all circumstances considered, it is the most eligible one, it would be futile to reject it because not accommodated to general practice. To answer with the bay, there is a similar recess on the other side of the fireplace, the back of which might be paneled with mirror, so as to correspond exactly with the window, to give greater brilliancy to that angle of the apartment, and to enhance the pictorial appearance of these recesses, as viewed from the central station at *s*. By way of creating more, or some kind of effect, a narrow window might be opened through the wall, at *w*, forming, internally, a panel on the splayed side of the recess, so as to admit light, and also afford a view into the street on that side: a very agreeable little nook for reading in would thus be formed. Supposing a window in this situation to be resolved upon, the larger side of the recess would then recommend itself as an effective situation for either a picture or a small niche containing a figure, since there would be sufficient thickness in the wall behind to allow of one being made. This last idea suggests another; for, were such a niche, containing a figure, bust, vase, or other piece of sculpture, preferred to a picture, we might then choose painted glass either for the whole or only the upper part of the window; and that in the other recess, or oriel, might be similarly enriched. But I am incurring the danger of being thought extravagantly fanciful in my ideas, in fact, to forget my subject altogether, by throwing out hints of decoration that seem utterly unsuited for the description of houses these plans contemplate. No matter; if good for anything at all, the hints I have ventured upon may be of service on various other occasions, since similarly shaped rooms might easily be adopted either in town or country residences of a superior class, where it is not so necessary to consult economy as to study effect. At any rate, what has been suggested in regard to both these plans may tend, in some degree, to show how many varieties present themselves, even in treating a single subject, whenever we take a step beyond the common "four-walled figure" of a room. Just now, for instance, another more decided alteration, in regard to *fig.* 177., occurs to me, one that would give a very striking character to the room, although it would not at all disturb the present plan; namely, to enclose the oriel with a glazed door, and so convert it into a small light cabinet, or flower-room for choice plants; or even into an open veranda. This being done, the other recess might be stopped up entirely, and a shallow closet formed in that splay of the room, so that the other apartment might be, in a trifling degree, enlarged, as there would then exist no necessity for so thick a partition as is shown in the plan.

It is hardly necessary to observe, that the very term "oriel," and, indeed, the plan of that window recess, supposes that the style of the house would partake, more or less, of the Tudor or old English character. Such a style is certainly the reverse of what is usual in modern street building; yet, if judiciously applied, and with a perfect regard to convenience, it would, I imagine, be found hardly less suitable, and not at all more expensive, than the Grecian. It admits of windows of the same narrow and lofty proportions; nor is there any thing in a modern house to which it refuses to accommodate itself. At any rate, it would not be easy to adduce a valid reason wherefore, if admissible in the present day for a habitation, it should not be so in towns as well as in the country. Still, it must be admitted, that it requires to be treated with more reserve, any affectation of such style, in buildings of a negative character, being almost invariably displeasing. However, I am now touching upon a subject which admits of much argument, and requires to be very fully considered and developed; therefore it is more advisable here to cut short at once what has only very slight and arbitrary connexion with the matter of my present communication.

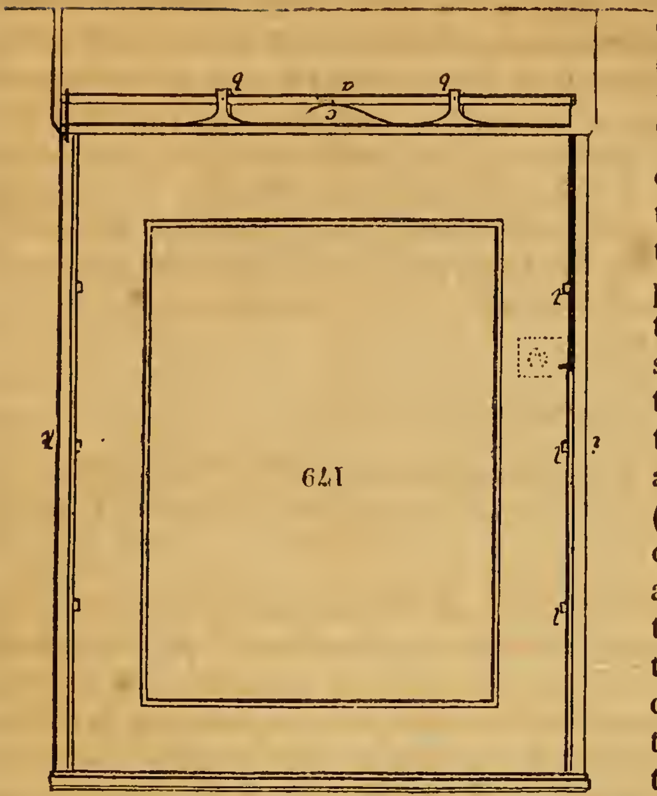
London, July 28. 1835.

Art. V. *Designs and Description of a Double Door for a Room, so contrived that one Door cannot be opened until the other is quite closed.* By William Coles, Esq., Architect.

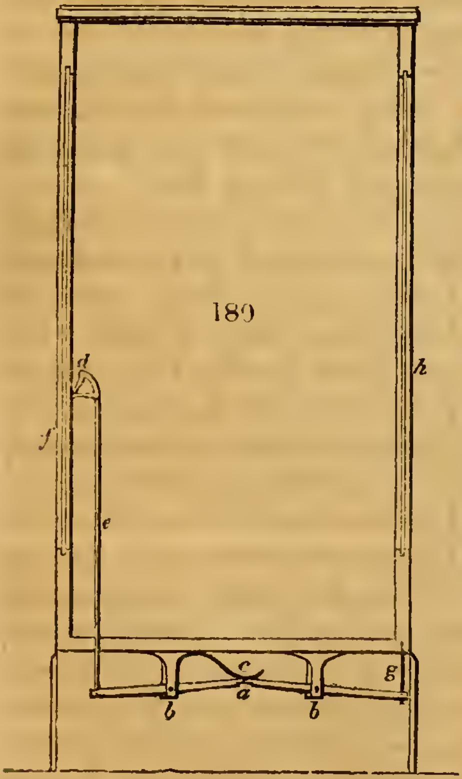
The plan submitted was invented for the purpose of preventing a current of air from entering the chamber of an individual who had been long in a very delicate state of health. It might, however, be applied to other purposes, such as securing privacy, excluding noise, preventing the escape of heat in cold countries, or its entrance in hot ones. "It would be a useful appendage to a dining-room, when fitted up in an appropriate manner, with trays to slide, &c. It might be placed in a partition, so that the different courses might be put in on one side, and taken out at the other, without the door of the dining-room being once opened during dinner; and there being no possibility of one door opening till the other was shut, no draught, but such as might be desirable, could enter that way." (See p. 48.)



The mode in which this double door is constructed will be easily understood by an inspection of *figs.* 178. to 180. In *fig.* 178., which shows the ground plan, *a* is a lever of wood or metal; and *b b* blocks attached to the underside of the floor, for levers to work in. In *fig.* 179., the same letters apply to the same parts; and *c* is a metal spring, also affixed to the under side of flooring board. The principle of action is, however, best shown in the side section, *fig.* 180., where one only of the levers is shown, to prevent confusion. In this figure *d* is a crank connected with the levers by the rod *e*. The doo (*f*) is



shown here as closed, consequently the bolt (*g*) is withdrawn from the bottom of door (*h*). The reverse is the case in the front section, *fig.* 179., where the door (*i*) is supposed to be open, and the spring (*c*), pressing on the end of the lever at *a*, forces the crank (*d*) back, and inserts the bolt (*g*) into the bottom of the door (*k*); *l l* are slides for placing trays on, if used as the appendage to the dining-room; and the model (of which the enclosed drawings are one sixth the full size) is fitted up for that purpose. Should this plan be used on a larger scale, I mean as the door to a room, I should recommend the bolt (*g*, *fig.* 180.) to be inserted into the side of the door (*h*) near the lock, which may be done by a crank and rod similar to that at *d e;* because a large door may warp, or the bolt, being in the floor, may get filled with dirt, so as to prevent its action, although it acts extremely well in the model. I also think that the spring (*c*) may be done away with altogether, by placing the fulcrum of the levers so much out of the centre, that the ends (*a*) may preponderate, or fall of their own weight.



Winchester, May, 1835.

ART. VI. *On the Discrepancy which often occurs between the Sum charged for the Erection of a House, and that which the Gentleman building expected to pay for it.* By SCRUTATOR.

IN p. 358. is a very just comment, by An old Builder, on the above abuse. It was my intention to call the attention of your readers to the same subject, soon after the appearance of the first article of mine, which you did me the honour to insert in No. I.; and as the Old Builder expresses a wish that his remarks may be put "in a clearer and more forcible point of view" than he has done, I am induced to trespass on your pages, and state what, in my humble opinion, are the causes of the discrepancy which he complains of, and its remedy. The causes may be traced to the ignorance or caprice of the architect, his employer, or the builder, in consequence of their not being able to judge of the effect which will be produced by the designs furnished; and not having them properly explained and understood by all parties interested, prior to the commencement of the building. One of the tricks resorted to by, I am sorry to say, some of the unprincipled members of the profession, or builders, is to get their employer into a train, as it is termed, and to recommend him only to build so and so, or to alter so and so, so as to get their footing into the job; knowing, if they were to point out what is really intended or requisite to be done, and were to state the amount, they would frighten him: so, in this way, they wheedle him on, degree by degree, piece by piece, till, at length, when they have immersed their employer so deeply into the mire, that there is no possibility of his getting out of it, without going through with the work, he finds that a job for which he had, probably, put away his thousand pounds, will turn out, to his great mortification, and probable ruin, to cost three times the original estimated amount. Thus it was that poor simple John Bull got treated with Buckingham Palace, than which a better example of the roguery and trickery of the unprincipled architect could not be named. It is a disgrace to the profession. What a tale I could unfold respecting this job; but, alas! it is now too late: the nation has been robbed, and that most wofully; but I trust that the reformed House of Commons will never allow the nation to be so gulled again.

Another cause of the abuse is owing to the ignorance of the architect; arising from his not having had a practical education. There is not one architect in five that properly understands his profession; and, as I before stated in one of my papers (p. 377.), for the want of this practical education, they can only be called artists. If an architect be deficient in the practical department of his profession, I defy him to be able to draw a proper specification, explaining the whole of the works intended;

and it is this that has caused the unjust clause, named by the Old Builder (p. 358.), to be inserted in the specification, to cloak his ignorance. Many a poor builder has been ruined in consequence of the architect's refusing to give proper compensation for the extra works, and withholding his certificate that the works were completed to his satisfaction. I know of an instance of a highly respectable timber merchant saying that he would not give any builder credit who undertook any works under a certain architect, who had been the cause of the ruin of three or four builders, by his withholding their certificates. Another very unjust clause, which is inserted into the conditions of many contracts, is, "that all extras and omissions shall be made out by the architect, or any person he may name; and his decision shall be binding on both parties." How monstrous, then, it is that the poor builder is made to suffer for the ignorance of the architect.

I would strongly advise any architect, who may not have a sound practical knowledge of his profession, to call in to his assistance the service of a practical surveyor, and to explain to him the drawings and designs; he should then let the surveyor make all the working drawings and the sections, and also draw the specification; and should afterwards attend upon the employer to ascertain if he properly understands the whole of the building, and the way it is intended to be finished. The surveyor should then take off the quantities, that he may be able to detect if any descriptions of the works are omitted in the specification, or whether it will be necessary to make additional drawings, to farther illustrate the intentions of the employer. After a correct list of the quantities is made out, then make the estimate, and report the amount; and, if it do not exceed the amount contemplated to be expended, let the employer name four or five respectable builders whom he wishes to make tenders. Each of these should have a correct list of the quantities, signed by the surveyor and architect, both of whom should be held responsible for the correctness; and when the estimate is sent in, let the builder, who offers to perform the work for the lowest sum, be engaged, and let him enter into an agreement for the due performance of the works. If, after this, from any unforeseen cause, there should be any extras or omissions, let the builder produce his bill of quantities, and make out the deductions or additions requisite by it. If the employer will take these precautions, he will not have much cause to be frightened at the amount of the extras; provided he has taken especial care, previously to the employing of the architect, to ascertain if he understands his profession practically. Another precaution I should recommend, which is, that a clause be inserted in the specification, that no extra works shall be allowed for, except an estimate is delivered to the employer, previously to the commencement of the work, stating what the amount of the alteration or addition will come to. In point of law, I very much doubt if a builder could recover, who had not previously explained to his employer that the alteration or addition would cause an extra to the contract; and, if my memory does not deceive me, it was decided by the late Lord Tenterden, that the orders of the architect or agent were not sufficient, without being able to prove that the employer was fully aware of the alteration, and that it would cause an addition to the amount of the contract.

As I am now writing, I cannot help expressing my approbation of the remarks made by one of your correspondents, respecting the Institute of the British Architects, and particularly as to the regulation for excluding surveyors from the Institute. Is this regulation made because they are afraid to come in contact with the surveyor, who would put many of the *soi-disant* architects to the blush, if he attempted to enter into conversation on any point concerning construction? I do contend that measuring, valuing, and estimating for builders, is as much part of an architect's profession as the making of designs; and if the members of the Institute still persist in adopting this regulation, I would recommend them to alter the name of the Institute, and call it the Institute of British Architectural Artists. Are any of the members district surveyors? If so, I would recommend them, in the new building act, if ever there should be one, to have the name changed to District Architects, that their honourable names may not be polluted with the addition of the dreaded appellation of "surveyor."

Art. VII. *On the Dwelling-Rooms of a House.* By I. J. Kent, Esq., Architect.

(*Continued from* p. 358.)

The Library.—This is not a room absolutely necessary in a house, like a dining-room or drawingroom. It was at one time to be found only in public buildings and institutions, monasteries, palaces, universities, and other places devoted to learning, and in the houses of the wealthy and noble; but, in the present day, no dwelling, of sufficient importance to be called a mansion, would be considered complete without a library.

The situation of the library in a private house should be sufficiently retired, so as not to be interfered with, either by the family or by visitors. It should be the farthest removed from the entrance of any of the sitting-rooms; it should be lofty, and every possible care should be taken to preserve it from damp.

For this purpose, whether in use or not, in moist and foggy weather, it ought to be aired, either by a fire in the grate, or by hot air or water passed through tubes; for, if once the damp affects the leaves or the binding of the books, they will very quickly mould, and become wormeaten. The floor of this room, in particular, should be pugged to destroy sound, and all the walls battened.

Where the books are very numerous, and the library is intended for a person of wealth, it should be carried up the height of two stories; that is, from 25 ft. to 30 ft. high, with a gallery all round, or on the sides only; the staircases to this gallery should be so contrived as not to destroy the uniformity of the room, and they would be better, if possible, placed outside of the room, communicating with it by doorways.

The floor of the library should be of oak, or Dutch wainscot, and the sides, and, perhaps, a centre pathway, paneled or parqueted: where economy is to be studied, a deal floor, painted in imitation of oak and varnished, may be substituted.

The woodwork and furniture in this room should be of oak polished, or of deal painted in imitation of oak and varnished. The walls, where not covered by book-cases, may be of a warm stone colour, or crimson, perhaps, for a private library; but, for a public one, the walls may be lined out in blocks, and tinted in imitation of native stone. The same tone of colour should prevail in the ceiling, so that the whole may harmonise, and impress on the beholder a feeling of quiet and repose. The style of all others the most appropriate and effective for a library is the Elizabethan, or the Gothic. In no situation does the deeply recessed bay, or oriel, window, tell with better effect than in a library. The linings of the deeply recessed doors, and of the archways, might be paneled and parqueted; the stained glass windows, admitting a quiet and reposing light, however rich, or even gorgeous, their colours may be. The ribs on the ceiling should form it into recessed panels, which may be designed to any degree of richness; with the larger and smaller bosses, formed of foliage, fruit, and flowers, all subdued and made to harmonise, as before observed, with the prevailing tone of colour of the room.

The doors should be hung with hinges that work in sockets, to permit them to be opened without noise. This method will allow of their being lifted off, and put on again, without removing the hinges. The locks should be of the very best construction. Those of Chubb, and, also, those of Mordan, are both excellent.

The windows should be placed on both sides of a library, if of large dimensions, and it should likewise receive light from lanterns above the roof; otherwise, if deep recesses, leading up to each window should be formed for the reception of the books, so much shadow would be thrown across the room, that the centre of it would be gloomy; and although I consider that the library should be quiet and sober in its style and effect, yet I would on no account render it gloomy and cheerless.

It is to this room more than to any other that a man would be disposed to retire, when he felt himself called upon to reflect seriously upon any subject of importance; to study any art or science; or to read any work requiring strict attention and examination. There should here be nothing to distract his attention: quietness and repose are, therefore, most essential.

The books in every library, be it ever so small, should be classified, so that they may be referred to readily; and a catalogue of them should be made, when the collection is large, so as to afford not only a list of the books, with the names given them by their authors, but directions for finding every work the library contains on any given subject. A list of authors, in an index, should be added, with the names of the books written by each, and indicated by the number in the catalogue. In fact, we would have the catalogue what the French call *un catalogue raisonné.* Over the bookshelves or bookcases should be conspicuously written the subjects treated of in the books beneath. Portraits of the authors most prized should appear on the walls; likewise vases, and busts, and statues on pedestals should be introduced; and maps, in cases, on spring rollers, be placed at a convenient height, so that they might be readily examined.

For members of either of the Houses of Parliament, it would be very useful to have the bookcases or shelves made with two sets of shelves, one behind the other; the front shelves having a boarded back, and a small ledge on them in front, to prevent the books falling off, and be hung with hinges, or on centres; and the back shelves arranged to receive the statutes, acts of parliament, and other voluminous works not usually bound handsomely enough to be exposed on the bookshelves. A very agreeable and convenient shape for a small private library is the octagon, fitted up all round with bookshelves, the lower part dado high, projecting so as to give depth for large folio books, with marble slabs; four of the sides might be enclosed with glazed doors, for the more valuable books, and the other four sides fitted up with bookshelves only, without being enclosed. The door and fireplace might be, as it were, cut out of the shelves; or shelves might be fixed on the door to contain books, and appear like the other sides of the room. If the room were to be warmed by hot air, the fireplace would be unnecessary; and the room might be lighted by an octagon lantern light; but if it be preferred that the room should be warmed be an exposed fire in a grate, I would continue the bookcases above the chimneypiece, so that the cornice over them might be uninterrupted. On these bookcases might be placed the busts of celebrated authors, vases, models, &c.; and on the table in the centre of the room might be arranged models of celebrated buildings, and some fine classical groups of statuary and other works of art. Under the table it might be well to lay a carpet; but the floor, generally, I would have uncovered, if it be of oak, or painted in imitation of oak and varnished.

When a library is designed on a large scale for a palace or nobleman's mansion, or for a public institution, where it is thought advisable to combine a museum with it, the plan which will permit every thing to be seen to the best advantage is that of a cross, like the new library at the British Museum: this is, perhaps, the most magnificent library of its style that we possess.

The numerous institutions and societies that have sprung up within these few years in London, and in most of our large towns, for providing the subscribers with libraries and the periodical works of the day, and lectures on the arts and sciences by men each eminent in his particular walk, are doing great good; for, we may be assured, the man who has attended a lecture on natural or moral philosophy will be a better member of society than if he had passed his evening in a public house parlour or tavern, or at a card-table. Independently of the advantages obtained by society in having its several members well informed, the very circumstance of neighbours meeting for such a purpose as to obtain knowledge gives them an agreeable introduction to each other, makes them better acquainted, and shows them to one another in a more amiable point of view.

ART. VIII. *Observations on the comparative Advantages and Disadvantages of the various Systems of heating by Hot Water now in Use; and on the System in general.* By CENSOR.

THERE have not been many inventions, that, after lying comparatively dormant for a number of years, have had a more rapid and extensive application than the system of heating by hot water. Such has been the fame it has acquired, and such is the extent of its use at present, that it will, doubtless, be esteemed utter hardihood to assert that it owes much of its celebrity, and much of its extensive use, to the same causes that render "Morrison's Pills," or "Rowland's Kalydor," so famous; namely, to eager puffing, by those whose object it is to push themselves and their works upon the public; and who have seized upon "the circulation of hot water," as a new branch of trade to make money circulate; or, rather, to allure it into their coffers. Let it not, however, by this be understood, that I would say the system of hot water possesses no advantageous peculiarities, for I do not say so: but I do say that its advantages have been, and are, much overrated; that its disadvantages have been overlooked, or kept studiously out of sight; and that, in many cases, it has been misapplied. To attempt to show this, and to set the merits of heating by hot water, as compared with steam, hot air, or open fires, in their proper aspect, is the object of the following observations.

It would seem to be a common failing of mankind to be fond of specifics: having once found a novelty possessing some peculiar capability or advantage, speedily to forget what the nature of that peculiarity is, and soon to apply the favourite novelty to purposes, and in places, for which it is utterly unfit. Now, what are the peculiar advantages of the hot-water system, which belong to it exclusively, and distinguish it from every other mode of heating?

It would seem that they resolve themselves simply into three very important features, viz.: —1. Great simplicity of structure in the apparatus for conveying heat: 2. Great facility in the management, in consequence of this simplicity of structure: and, 3. Great uniformity and durability in the communication of heat. With the two first of these no fault can be found in any situation or apparatus; but it is with respect to the third that the misapplications, and some of the miscalled improvements, have been made.

Wherever great uniformity of temperature is important, at the same time that ventilation, or change of the mass of the air heated, is unnecessary, and rapidity in the rising of the temperature is not required, there the hot-water system is properly applied; and wherever these three conditions are not found, it is misapplied. Hence, for most horticultural purposes, it is the best mode of heating that has ever been devised. I say for most: for, first, it is by no means certain that perfect uniformity of temperature is most conducive to the growth and health of plants, particularly those which are natives of the tropics, which would, probably, be much better treated by being let to cool down very considerably at night, in imitation of the chilly intertropical nights: secondly, it is probable that stove plants would be benefited by a much less restricted ventilation than the limited powers of the hot-water system will allow: and, lastly, in cases of houses of low temperature, such as conservatories, heath and Cape plant-houses, &c., where a fire is seldom or never kindled but at the approach of frost, the hot-water system is wrongly applied; inasmuch as in case of sudden frosts, which are so common in our autumn and spring months, the house is not heated with nearly sufficient rapidity;

and those who know the injury done to conservatory plants by artificial heat at all, will admit that the fire should precede the frost but as short a time as possible. But here the advocates of the flat pipes and the small gas tubes come upon the stage with, " Our flat pipes have so large a surface, and hold so little water, that they are hot in a moment;" and, " Our small tubes hold so little, and have so high a temperature, that we quite answer your objection." Most true it is, that these methods do heat tolerably fast; but they also cool equally fast; and so between the two extremes the unfortunate plants are kept in a perpetual ague. Rapid heating and uniformity of temperature are incompatible; at least, they are so by any modification of hot-water apparatus that I know of; and when you obtain the former by means of small tubes or flat pipes, it is at the expense of all the greatest advantages of the hot-water system. You merely heat the required space by a roundabout contrivance, when it may be effected just as well by other means.

We will presently return to a more deliberate consideration of the merits of the small gas tubes, or Perkins's system; and of the flat pipes, or Lloyd and Foster's; only observing here, that the very plea upon which they are both pushed forward, contains, *in limine*, an irreconcilable contradiction to that which is the very principle upon which the system sets out; namely, uniformity of heat, and simplicity of structure and management. At the same time, from peculiar circumstances, they may both have some few local applications with advantage, as, for instance, Perkins's tubes for heating engravers' plates, &c.

But, before proceeding to detail the merits of the different systems, we will consider some of the other applications of the hot-water system at large. And, first, as to its application to the rooms of dwelling-houses, the wards of hospitals, &c. &c. If the space heated by hot water, particularly if two or three stories in height, be compared with the outlay for the apparatus, it will be found one of the most feeble modes of heating, in proportion to its cost; and, if the heat obtained be compared with the consumption of fuel, it will be found, with the exception of the common open grate, one of the least economical modes of distributing warmth.

But it has a signal objection as to its use in living-rooms: it produces no current of fresh air itself, and the feebleness of its heating powers renders it impossible to give that ventilation in cold weather, which is so essential to health. I am well aware, that the feeble heating power may be, and is, compensated sometimes by an enormous surface of pipe; but this is done at great expense, and with no improvement to ventilation. It is earnestly to be hoped, that the hot-water mania may never expel our ancient, cheerful, and wholesome open hearth from our dwellings; if so, we may expect to see the ruddy English cheek supplanted by the bleached and kiln-dried aspect of our Continental neighbours, whose stove-heated rooms are nearly in the same predicament as if heated by hot water.

I have said that the heating power of a hot-water apparatus is feeble. In ordinary cases, the water never can boil (Mr. Perkins professes a higher temperature, but of that more anon), and, in most instances, is far below the boiling point.

From a great number of observations that I have made, the surface of the pipe is scarcely ever as high a temperature as 185° Fahr.; and necessity obliges them to be placed frequently in such situations, that they not only give out their heat very tardily, but much of it is often lost by conduction into walls and floors, &c.

Neither does it economise fuel. I have neither seen nor heard of a single instance in which a saving of fuel was effected, by any of the modes in common use, over the amount with which the same space could be heated by steam stoves; and for one obvious reason among many: it is impossible, even with the best-proportioned boiler and apparatus, to make the water circulate fast enough to rob the fuel of the whole of its heat, much of which consequently passes up the chimney to waste. Far otherwise is the case with steam; there being no difficulty in constructing a boiler in such a manner as that the steam shall completely rob the ignited fuel of its heat, and that the vapour and smoke, if any, from the flues shall enter the chimney at, and not above, the boiling point of water.

It, therefore, does not appear, that there is any peculiar advantage to be found in applying hot water to dwelling-rooms, but, on the contrary, an obvious evil.

But some one will, perhaps, say, Where will you apply hot water, if your exclusions are so numerous? Circumstances must, in general, guide in this; but I would say, its staple application must be to horticultural purposes. It is admirably suited, also, to libraries; where the heat may be kept up at night, and ventilation allowed during the day. It preserves an excellent temperature for the books, and does not, like hot air or steam, tear and destroy the backs and bindings. For many manufacturing purposes, also, it is valuable; for instance, for the drying of gunpowder; where a sudden fall of temperature, which might happen in heating by other means, would materially injure the half-dry powder.

There are also some inconveniences inseparable from the hot-water system, under every form and to whatever use it may be applied. Leakage is the most important of these; and, where three or four stories are heated, this requires great care to be guarded against; and, where any joints, on large pipes, but flange joints with bolts and nuts, are used, it is impossible to avoid it. Indeed, flat pipes under such pressure cannot ever be depended upon, and are always uncertain, from the frequency of bad mouldings in them. Rapidity of circulation is everything in hot-water apparatus; and the check produced in it by dipping to pass under doors, &c., is very great. This is much increased, if the common mode of using pipes of different diameter in different parts of the apparatus be adopted: the check thus produced being far greater than what is due to the mere difference of diameter in the respective pipes, as is evident from the principles of fluid veins. Thus it is important, and, yet, often inconvenient, to have every part of the tubes of the same size; an objection which does not apply to steam, where the conducting pipes may be very small, and the distributing surfaces large.

I have known more than one instance in which long lengths of flat pipes, jointed with the common welded sockets, were found, under a pressure of two or more stories, impossible to be maintained staunch: indeed, it is hard to conceive how they should, when we consider that about every 2 ft. 10 in. in altitude produces on the lower part of every hot-water apparatus a statical pressure of one pound to the square inch, and that this is visited on a vast length of pipe, subject to continual change of dimensions with every variation of temperature.

Another inconvenience, in most cases inseparable from the hot-water system is, that the heat-distributing surfaces must be placed somewhere close to the walls of the space to be heated, instead of as nearly central as possible. This arises from the difficulty of circulating the water in tubes on pedestals so situated: this does not apply to steam, nor so much to Perkins's tubes as to large ones; although advantage seems very seldom to be taken of it in the way in which they are erected. Many other objections might be shown to the system at large; such as the weight of water and tubes on floors, the furring up of pipes by sediment, the difficulty of repair, &c.; which, not to be hypercritical, we will pass over, and proceed to make some observations on steam, as a medium for conveying heat, in comparison with hot water.

At the time that hot water first became celebrated, steam had hardly made its way, as a mode of heating, beyond mills and manufactories, except in some few instances, for horticultural purposes and public institutions, &c. All at once it was discovered to have the most serious irremediable evils; to be a most precarious and insufficient mode of heating; and, withal, to be difficult to manage and dangerous in the extreme. Now, all this has some truth in it; for there never was a falsehood or an error, perhaps, that had not a foundation in truth: but the latter may bear any assignable ratio to the former; and in this case it is one of great disparity. It is quite true, that steam, under the very best arrangements and management, does not possess the capability of preserving so steady and undeviating a temperature as hot water; it is equally true, that it requires a little more skill in management: but it is equally true, that it possesses some most signal advantages; that it may be made a conveyance of heat to almost an unlimited distance, and in any required direction, up or down, vertical, horizontal, or inclined; that the size and form of the conducting tubes or distributing vessels may vary to any extent, or to suit any local purpose, without materially altering the result; that the surface of steam pipes, containing steam at 2½ lbs. to the square inch, is never more than 1 or 1½ deg. below the boiling point of water, and seldom so low; that the pipes or other vessels may be made thin and light to a degree impracticable with any hot-water system; and that, whatever be the altitude to which the apparatus may rise, no increased pressure is thrown upon any part of it. Such are the peculiar and distinguishing advantages of steam; and I think, in most cases, they are sufficient to throw a balance in its favour against hot water: but, moreover, its evils have been much exaggerated. There is no difficulty in constructing a boiler for low pressure, with its apparatus so that bursting from surcharged steam is physically impossible; and also, where a full command of water can be obtained, such a one that boiling dry is so improbable, that the chance of it cannot be reckoned on. To speak more certainly, in addition to a feed head cistern, sufficient to supply a boiler by a large open pipe for 24 or 48 hours, or any longer period, an inverted water siphon may be placed close to the boiler, in addition to the ordinary safety valves, so that the water shall blow out and the steam escape at any required pressure. With respect to the supply of fuel, much has been said; and it has been asserted, that the moment the fire is out the steam is down, and all heat is at an end; and, therefore, constant watchfulness is needed, and so forth. It is not so: firstly, in any large boiler, there is heat enough in the brickwork to keep up some steam for a good while after the fire is out; and there are abundant modes of making self-supplying fireplaces; some depending on mechanical power, and some, which are more suited for the present purpose, on the principle of the ancient "*Athanor;*" but here, again, the hot-water has been overrated in its advantages, even in this respect. It is true, that, when steam does go down, there is an infinitely more sudden fall of temperature than is the case with hot-water apparatus, the circulation of which gradually ceases for want of fuel; but hot-water fireplaces must be fed and attended to as well as steam boilers: and further, when steam goes down, it ceases to give heat, but it has no tendency to cool the space before heated; whereas it is quite possible for a retrograde action or circulation to take place in hot-water apparatus after the fire is gone out, and for the current of air through the boiler flues to render the water therein cooler than that in the pipes, when they will begin to rob the rooms or other space of the heat they before communicated. This view seems never to have struck the partisans of the hot-water system; but I once saw it verified in a small stove, heated with a flat thin boiler and flat pipes, during a very severe frosty night.

Finally, *wherever perfect uniformity of temperature is not essential; where there is much complexity in the spaces to be heated, and a large quantity of air to warm in a given time; and where the power of rapidly raising the temperature is desirable, and a more abundant ventilation than is allowable with hot water is required; then steam should be applied, and not hot water.*

Having now considered pretty fully the general merits of hot water and steam, it may be allowable to say a word or two on the subject of stoves, hypocausts, or hot-air stoves or furnaces under ground, and open fires. The hypocaust, or hot-air stove, is, of all contrivances for heating, that for which, as far as my observation has gone, architects, in general, most usually make preparation in the building of a house. Whether this arises from old habit, or from a general want of knowledge on the subject of improved modes of heating, I know not; but, truly, the extreme danger of conflagration produced by these stoves is such as ought for ever to drive them from use. It does not seem to be commonly known that a hypocaust is nothing more than a furnace contrived to heat a large flat plate of cast-iron placed over it; and that a flue is provided for passing over the said plate, having a free communication with the open air at one end, while the other, opening into the place to be heated, discharges the volume of air heated in passing over the upper surface of the plate. This, with trifling variations, is the construction of every hypocaust. Now, it never appears to enter into the calculations of hypocaust-building, that there is nothing to prevent the cast-iron plate from reaching any temperature up to its fusing point, and that there is a great chance of its cracking when heated only to a bright red; and that if it either melt or crack considerably, *the flame will pass from its own flue into the air flue, and probably (only dependent on distance) be discharged right into the body of the place intended to have been heated.* I myself have known the particulars of two such accidents, one of which was likely to have involved a lordly palace in flames; and I doubt not but of the many accidents we continually hear of, from what are called the flues of hypocausts overheating, most have arisen from the above cause.

Hypocausts have the advantage of producing a supply of air, but this is only heated air; and, unluckily, people like to be ventilated with fresh air, which cannot be procured by them: not only is all the animal and vegetable matter, continually afloat in the atmosphere, consumed by the hot plate, which gives rise to the offensive odour always experienced, but the air is discharged into the rooms, &c., in a state of nearly absolute dryness; the result of which is, that the lungs are irritated by being perpetually drained of their moisture, and books and furniture are split, cracked, and destroyed; the varnish of paintings is broken like mosaic, &c. &c.; and a current of dust, more or less dense, according to the situation of the place and the state of the atmosphere, is always delivering into the room. I have seen one instance, and, I rejoice to say, but one, of a hypocaust applied to heat a large conservatory; and not only were the "Sabæan odours" utterly annihilated by its villanous smell, but the plants looked like so many carcasses from a caravan, that had died of thirst in the desert, and were preserved as if alive by its parching sun and arid sands. It has been sometimes attempted to correct the dryness of the hot air, by letting it pass over a shallow pan of water; but it never answers, for either the air is not saturated to any sufficient amount, or it is so fully so as to deposit a dew in the room, varying with the relative temperatures inside and out, and, moreover, in all cases the smell is worse than before.

So much for hypocausts; and to the same category belong all those many modifications of stoves which heat the chamber or other space, by means of a current of air being drawn over some part of their heated surface.

So many and so various are the kinds and orders of stoves, in this day of "many inventions," that which is best, and which is not best, it would take a little volume fully to discuss. At present, I would only observe, that, unquestionably, those are best for health and comfort *which heat solely by radiation, and ventilate by continually abstracting a current of air* from the place heated; in fact, those which approximate the closest to the common fireplace. Of all the stoves I have seen, the Continental earthenware ones, as used in France and some parts of Western Germany, are the best. Earthenware stoves are used in Sweden and other parts of Europe, which are nearly as unwholesome as hypocausts; the air being merely heated by passing through warded, that is divided, chambers of earthenware.

Earthen stoves have some advantage, in preserving a pure atmosphere, over metallic ones, but burn more fuel. To my eye, some of the earthen French stoves, of the style of Louis XIV., are far superior in beauty to the most elaborate productions of our founderies; indeed, there are some few to be seen which were made for royal presents, of porcelain, and which, perhaps, are even yet made occasionally, of the most exquisite beauty.

Both stoves are very suitable for burning wood, or, in Ireland or Scotland, turf; but by no means so for coal, unless made of metallic substances. Indeed, the proper use of stoves in this country appears to be to warm a limited space, with a small consumption of fuel, and at a small original outlay.

Under favourable circumstances, I believe a given space may be warmed nearly as cheap, as far as consumption of fuel is concerned, by stoves as by any other means; but I feel confident in asserting that, in almost every case, putting the first cost of the apparatus aside, a given space can be heated by steam with a smaller consumption of fuel than by any other mode; and the greater the area to be heated, the more perceptible will be the economy of the method.

But for living-rooms, economy is the only recommendation which any of these various modes we have discussed possesses. We may be warmed by any of them, but never comforted by one. We not only want the effect of the open fire on our imaginations, but we lack the really important matter of a free and full ventilation. Any one who has ever been in "the stove" of a German inn in winter time, and breathed the humid, thick, unwholesome atmosphere of it, will judge of this. The common firegrate is, no doubt, about the most wasteful contrivance for heating a room that can be devised; but it is cheerful and healthful.

Amongst modern improvements, we have succeeded in retrograding in this matter, as well as in some others. A fashionable drawingroom grate of the present day has the front, or cove, generally of ground cast iron, brought down so low, and the bars thrown so far back, that much less heat is radiated into the room than by one of the old-fashioned high-backed grates of half a century ago, in which the bars project far beyond the other parts of the grate, and the whole of the flame, be it ever so long, is fully exposed to view and to radiation. Moreover, a modern grate has a cast-iron back to it, full of holes, so that a current of air passes into the fuel at the back as well as in front, which does no good, except consuming the fuel in heating a plate, which is continually cooled by the said current: added to which, a brick-backed grate becomes hot, and radiates heat in excellent style; whereas a cast-iron perforated back never radiates well without an enormous consumption of fuel.

I would now return from this, which appears rather a digression, to consider briefly the advantages and disadvantages of the two or three modes of heating by hot water which, at present, make most noise. First, of the flat-pipe system, it is enough to repeat, that the rapid heating, and, consequently, the rapid cooling, of the pipes, contradict the very principle upon which the system of hot water relies for its adoption, viz. its invariability; that they are very seldom without bad welds here and there, from their extreme thinness, and the difficulty of manufacturing them; that they are difficult to make and keep staunch; and that their surface is so great in proportion to their area, that the rapidity of circulation is greatly retarded by the friction of the fluid in motion; that, in fact, they possess many signal disadvantages, without any visible or positive advantage; for it is a mistake, that, by having a very small quantity of water in circulation at once, any saving of fuel is produced.

The surfaces of the apparatus alone can give out heat; and these can only give out a certain quantity in a given time: hence all the water in the tubes, that is not cooled by the surface, remains at a constant temperature, circling round and round, and, when once heated, burns no more fuel to waste, unless, indeed, that due to the inappreciable difference in rate of circulation produced by the water which changes temperature, dragging the water of uniform temperature along with it. The flat pipes are admirable things for heating by steam, but very foolish for water; and, so as the pipes are made and used, I dare say it is quite the same to the makers whether the one or the other goes through them.

Of Perkins's system, namely, that of water circulated in small tubes, supposed to be hermetically sealed, I would wish to speak a little more at length. The advantages attributed to this mode of warming by hot water may, I think, be reduced to the following: — that, by closing the apparatus altogether, the temperature of the included water may be raised to any required amount; that, therefore, in proportion as the temperature of the surface of the tubes is higher, their superficies may be diminished, and that this will enable tubes so small to be used, that they can be bent, accommodated, and placed in situations where large ones would be impracticable; that the cost of the apparatus is thus much reduced; that no fresh supply of water is ever needed, and, therefore, no deposit of sediment can take place in the tubes; that the higher temperature enables the fire to be raised proportionably in intensity, and, therefore, to burn less to waste, or to a more advantageous use of fuel; and that less weight of water and apparatus is placed on the floors, &c. This, I think, is a pretty fair statement of all that can be reasonably alleged in favour of the pressure system. Let us now see how far the allegations are borne out. First, it will be advisable to see what increase of temperature we shall get, in proportion to the increase of pressure on the apparatus, over and above 212° Fahr.; accordingly, from Dulong and Arago's tables of elasticity and temperatures, the latest and probably most accurate that have been formed, we extract the following, omitting decimals : —

Atmospheres.	Temperature.	Atmospheres.	Temperature.
1	212° Fahr.	8	341° Fahr.
2	250	9	350
3	275	10	358
4	293	20	418
5	307	30	457
6	320	40	486
7	331	50	510

From this we perceive, that, to increase the temperature of the included water in the tubes, only one half more than in any common open vessel, namely, to raise it from 212° to 318°, we must produce a pressure on every part of the surface of the apparatus of six atmospheres, or of ninety pounds, to the square inch, nearly; and that, to raise this temperature again by one half, or to 477°, we must increase the pressure to nearly forty atmospheres, or to the enormous amount of six hundred pounds on the square inch.

To this latter temperature and pressure I believe Perkins's tubes never have been attempted to be raised, for the best of reasons, that they would not stand it: to the former they, perhaps, occasionally may. But, supposing that the temperature of the included water is actually doubled, or 424°, and, consequently, the surface of the pipe also doubled in heat; as the heating power of every body that radiates is, *cæteris paribus*, directly as the temperature and surface of radiation, so here, the temperature being doubled, we may reduce the surface by one half, and have the same heating power; in other words, the entire gain is, that the diameters of the pipes may be reduced by one half. This, however, is not exactly the way in which the reduction is made; for the diameters of the pipes are kept always of the same dimension (about 1 in.), and the variation of surface is produced by lengthening or shortening them.

This, certainly, is no sufficient inducement for incurring the danger of having a network of tubes running in all directions about a building, charged with an intensely heated fluid, at so enormous a pressure. But the advocates of the system contend that there is no danger whatever, and that tubes, charged to six, eight, ten, or a dozen atmospheres, with water and highly elastic steam, are perfectly safe and innocuous; for that the tubes are proved, before they are used, to bear one thousand pounds to the square inch; that they are so small, that, even if burst, no danger can arise; that high-pressure steam will not scald, &c. &c. &c.: all which, let those believe who can, I, for one, cannot; and I do not believe any twelve intelligent engineers (I do not mean hot-water engineers) can be found who will agree in a verdict of "safety."

To give my own particular notion, however, of why this mode of heating is unsafe:—The tubes used are what are called strong "rolled gas tubing," which is made of thin plate iron, with the edges united, without any lap, by pressure between the rolls, at a welding heat; and I never yet have seen a piece of it that would stand five hundred pounds to the inch, much less a thousand; to which latter amount I do not believe they are subjected, notwithstanding what is asserted; and any one who knows the difficulty of making and keeping in order a pump and valves, with other apparatus, &c., capable of forcing pipes to that pressure, will, probably, agree with me. Secondly, when gas pipes burst, they almost always rip open at the usually imperfect weld, and that, too, for a good length; the result of which would be, in this case, that a gush of a fluid, half water and half steam, would rush out, and continue to do so until it had completely emptied the whole apparatus: and, supposing it were true that steam only made its way out, although, under certain circumstances, high-pressure steam will not scald close to the issuing orifice, yet when two, or three, or more feet distant from it, it will scald as well as the most vulgar steam in the world; but, in this case, it would be steam and hot water mixed, which, together, will scald, and scald horribly, at any distance from the issuing aperture within its range. Thirdly, it is apparently kept carefully in the back ground, that what is called the expanding tube is usually one of about 3 in. in diameter, and, therefore, that it, which, from its size, is the most likely to burst, has no plea to put in on account of its small size. Farther, I should like to know how Mr. Perkins, or any of his deputed engineers, can tell to what amount of pressure they subject their tubes; for the only way it can be regulated, apparently, is so to apportion the cooling surface of the pipes to the surfaces receiving heat, that it shall, after a certain temperature, be carried off as fast as generated: but, even if this were accomplished, if the temperature of the air around the tubes rises or falls, or the fire burns better by change of fuel or weather, that moment the temperature of the included water rises with it, and the pressure increases likewise. So that there appears, thus, in principle, the utmost uncertainty, both in the application and management of the apparatus. In fact, I am inclined to believe that, in most cases, it is only a mode of heating by high-pressure steam, and that at no very great pressure either (care being taken that the coil in the fire shall not be able to burst the pipes), which goes by the title of "the patent hot-water apparatus."

I have not had much opportunity of observation of this system myself; but two facts I feel it most important to state, which I have on, I think, excellent authority; and, should it become necessary, I can give name and place for both cases and authority. First, the apparatus nominally called "hermetically sealed" is found almost, if not wholly, impracticable to be kept so. The result is, that a small escape of steam at the joints, or at the top-feeding screw or air screw (I know not what name the inventors give it), is continually taking place; so that, instead of its being never necessary to add fresh water, it is obliged to be poured in every twenty-four hours or so. Hence arises a very formidable consideration: every quart of water so added lays on a coat of sediment all over the inside (and especially over the parts in the fire) of the apparatus; and this coat of sediment is not deposited over a large boiler and large tubes, but confined to those the majority of which are only 1 in. in diameter; so that the first one eighth of an inch in thickness, which is deposited in the pipes, will stop up about one fourth of their area, and nearly destroy their power of conducting heat to the outside; and the second eighth in thickness will stop up a much greater proportion, and injure the conducting power to a greater amount also.

Now, the friction of the water in tubes of 1 in. diameter, and the immense resistance occasioned by the vast number of bends and turns necessarily given to accumulate the required length of pipe into rooms, &c., is such, that I am strongly disposed to doubt whether, if a common apparatus of the sort were left open, and kept under the boiling point, the water would circulate in it otherwise than very languidly indeed; but when the bore comes to be reduced from one inch to three quarters of an inch, and from that to half an inch (for the second thickness will be laid on in much less time than the first), the friction would be so immense, and the heat given out so little, that the apparatus, before long, would be worse than useless. Time, as yet, has not been sufficient, probably, to develope this in any particular apparatus; but I am inclined to think it will be the fate and exit of many an one yet.

The other fact is this, and it is at once curious and important. One of the patent apparatuses had been at work some time successfully, when it ceased to give heat, and the pipes were found nearly cold, although the furnace was lighted. On examination, and taking out the top screw, the water was found to have wholly disappeared; and, on applying a lighted candle to the screw aperture, the tubes were found full of hydrogen gas, which ignited at the aperture, and burnt away with a lambent flame.

There are but two ways to account for this: either the apparatus was not staunch, although "hermetically sealed," and the water had all boiled away, so that the tubes became red hot, and decomposed the last portions; or wrought iron possesses the property of decomposing water at a lower temperature, namely, at that due to the pressure on the apparatus; and if so, in every one that has ever been put up the water is thus slowly (perhaps I should rather say rapidly) decomposing, and thereby destroying the tubes. This, I confess, I think the most probable solution; and, if so, it is a confirmation of what has been predicted of the thing in the *Mechanics' Magazine*. Whichever horn of the dilemma is taken, it is cogent against the apparatus, and adds formidably to the danger of bursting.

I must again repeat, that the recommendation given of them, that they are quickly heated, and hold little water, is, like in the case of the flat pipes, an argument against them, as they, also, cool quickly (although not so fast as the flat pipes), and, therefore, give no uniformity of heat.

Still, I freely admit that, for some purposes, where uniformity of heat is no object, they may be advantageously applied; but in those purposes I never could include heating the air of apartments; and, least of all, heating horticultural buildings.

Of Kewley's mode of circulation, by means of the siphon, I have not seen much: indeed, it does not appear to have got into general use. Its sole recommendation appears to be, that by its means a more rapid circulation is obtained than by the common apparatus: this may or may not be true, according to the circumstances and construction of the latter. Upon it I would only make one observation; namely, the limit to the height of the siphon is very small indeed; for, as water boils in a vacuum at about 80° Fahr., so, if the height of the siphon is about 30 ft., the water which enters the lower limb of it at 80°, will generate steam when it comes to the top, and lower the water in the siphon; and so of all higher temperatures and less elevated siphons. Besides, all the air originally in the water will ascend into the siphon; though this is removed, I believe, by a pump.

Rapid circulation is unquestionably the first point to be attended to in every system of heating by hot water; and, if it were the object of this paper to write a treatise on the principles of construction in hot-water apparatuses, it might be shown that this is to be obtained to the greatest extent, and combining all other advantages of the method, by a proper form and setting of the boiler; by large tubes, everywhere uniform in diameter; by running them in long ranges, with as few bends as possible; and by freely exposing them to currents of air, to carry off the heat.

Innumerable is the tribe of boilers, each professing some marvellous advantage; for, in this puffing age, every one must have something different from his neighbours. We have flat plates for boilers, tube boilers of innumerable varieties, chambered boilers, one boiler within another, conical, spherical, hemispherical, square, annular, *cum multis aliis;* amongst which it would be hard to choose.

Lloyd and Foster make an excellent kind of boiler, where several stories are to be heated, which they apply to their flat pipes. It is conical; and it has but one objection of importance, viz. it wastes much fuel, from being almost all heated with side flues. Cottam and Hallen's hemispherical boiler, although an unlikely looking thing, is by no means a bad form, and fits into a small space; but it would take too long to go through them all, or even one half of them. I would only observe that tube or other boilers containing a very small quantity of water should never be used, as they are certain to generate bubbles of steam, which, rising through the pipes, &c., make a noise, and injure the uniformity of the circulation; and that the following principles should be attended to in every boiler: — The hot-water, or rising, pipe should proceed from the top of the boiler directly over the hottest part; all the surfaces, particularly the upper parts of the boiler, should trend, or incline, to the rising pipe; the water from the return, or cold, pipe should flow in upon, or, if possible, strike against, the lowest part of the boiler, as far as possible from the rising pipe; and all the surfaces should trend, or incline, from it to the hot pipe; and any steam which may be generated should have free egress, without forcing any water before it.

The best boiler for general purposes I have seen, and which combines most of the above advantages, is a simple cylinder, about four and a half diameters in length, set at an inclination of about 25° to the horizon. The hot pipe proceeds from the top side at its highest end; and the cold pipe enters at the bottom side of the opposite or lower end. The fire bars are under the highest end, and directly under the hot pipe; and the flue passes with an inclination downwards under the boiler, then divides in two, and, passing up and along both sides, goes into the chimney shaft, thus enveloping almost the whole surface of the boiler in flame.

The forms of pipes are almost as many as of boilers: round, flat, square, oblong, oval, &c. &c.; and they are made of wrought iron, cast iron, copper, zinc, and even tin. Each may, in particular cases, possess some advantage; but, for general purposes, round cast iron, the oldest and simplest, are, I should say, the best. Copper, where expense is not an object, possesses many advantages, and great facilities of execution; and, when externally japanned, it gives no odour of any kind. Zinc is singularly imperfect, and tin has no durability. Pedestals, or other large distributing surfaces, placed in particular situations, with small leading and returning tubes, are of use occasionally, particularly in ornamental apartments, where hot water is used; but there never can be such a rapid circulation produced in them as in a continuous range of pipes; and necessity only should, therefore, dictate their use.

After this lengthened review of the hot-water system, as it is now used, I think the conclusion is fair, that no considerable improvement of any kind has been effected in the modes of applying it since the time of the Marquis de Chabannes; and that the patent and other improvements are rather alterations than improvements, and are generally for the worse. Indeed, the invention, originally, was characterised by simplicity, which is its highest recommendation, and that which alone will enable it to hold its ground henceforward as a mode of heating; and, unless some remarkable improvement shall yet take place in the modes of its application, which, considering its principles, is most improbable, its only lasting application will, most likely, be to the heating of horticultural buildings, and others similarly circumstanced.

Where, however, small quantities of heat are evolved, and go to waste as educts of other processes, the hot-water system will always be a convenient mode of conveying it to a distance, and rendering it available: as for instance, the feet of, and even the seats for, outside passengers on public coaches, and those of the inside passengers in winter, or when desirable, might be readily kept warm by hot water, heated by the waste heat of the ordinary coach lamps. Indeed, the same thing might be done by cast-iron friction-plates attached to the coach wheels; a plan said to be extensively used in America for generating heat, but with an increased expenditure of animal power.

I have now discussed, at considerable length, and, I hope, impartially, the merits and demerits of the hot-water system; at least, I will say, I am only anxious to put the subject in a true light, and what I have written has been written without "fear, favour, or affection." In doing so, I probably have sown the teeth of a dragon, that will produce a host in arms against me; but be it so: what is true is not the less so for being opposed; and the sooner that which is false is stripped of disguise the better.

Much might have been added upon more detailed matter; for instance, the circulation of oil, saline solutions, &c. &c.; and the vast subject of the best practice in making of joints, the use of valves, and cocks with ventilators, and for self-regulation, with a mass of other such matter; but I proposed here rather to consider the principles of the subject than its minutiæ; and, if health and circumstances permit, I may embody these in a separate article. See Retro. Criticism. 522 & 473

MISCELLANEOUS INTELLIGENCE.

Art. I. *Domestic Notices.*

ENGLAND.

The *Institute of British Architects* held their last ordinary meeting for the season on Monday evening, July 27., when the president, Earl de Grey, was in the chair, and the rooms were quite crowded with the members and their friends, including many gentlemen distinguished in literature and the arts. After the routine of business was gone through, which comprised the reading of several interesting letters from foreign, as well as British, artists, the chairman laid on the table a Report from the Commissioners appointed during his administration as First Lord of the Admiralty, to ascertain the efficiency of Kyan's patent process for preventing dry rot in timber. A letter was read from Mr. Robertson, editor of the *Mechanics' Magazine*, with a paper describing a machine for planing stone invented by Mr. Hunter, and used at the Arbroath quarries with great success (see p. 331.), and with a saving of three fourths, as compared with manual labour. Captain Carnegie, the proprietor of the quarries, attended, and added some useful explanations as to the nature of the stone and the machinery; and presented a large handsome vase which had been formed by the machine in the course of one day.

Mr. Papworth, vice-president, then read his paper on the connexion of architecture with arts and manufactures, and the benefits arising from the study of design as applied to the details of a building and all its accessories. Mr. Papworth took a general review of the origin and progress of the art of design among the ancients, pointing out their distinguishing excellences, and the causes whence they might be deduced. He then drew a comparison betwixt this country and the most polished nations of Europe, adverting to the grounds of our inferiority, in the art of design, arising in many respects from a want of better cultivation, and from its not being made of sufficient importance in the education of young artists and architects: besides which that no sufficient patronage and protection were given for the encouragement of those whose talents and industry might be truly deserving. The concluding observations were addressed more particularly to the junior members of the profession, inculcating the important principles of diligent study and ardent devotedness to the interesting pursuits connected with architecture, and an attention to all those details which hitherto have been too often left to the caprice and ignorance of mechanics; so that by applying the principles of taste, as was the ancient practice in classical times to all the minutiæ in the finishings of architecture, those principles may become diffused and established, and confer a national benefit by stamping a value on our arts and manufactures in that respect, proportionate to the high character and value they have already attained for the excellence of their workmanship.

Mr. Papworth announced that, having communicated with Mr. Morrison, M.P., on this subject, that gentleman, from the interest he took in matters of this sort, and from the high opinion he entertained of the usefulness of the Institute in promoting them, had sent him a cheque for 50*l.* to be presented as his donation.

The walls of the principal room were completely lined with a collection of drawings sent by Mr. Britton, honorary member, illustrative of the castellated and domestic architecture prevalent in England from the reign of Edward IV. to that of James I., intended as specimens of the style referred to in the instructions issued for the guidance of the architects who may compete in the design for the intended new Houses of Parliament; and amongst them were some very superb drawings by Sir J. Wyatville of the improvements at Windsor Castle. Mr. Britton entered into a description of some of the most prominent examples of each kind, pointing out their distinguishing characteristics, and the transitions from the fortified gloomy castles of the feudal barons to the more light and sumptuous mansions of later and better times. The drawings were in a very bold picturesque style of execution, and the whole afforded great gratification to the meeting, as was warmly expressed by the noble chairman.

It is gratifying to notice the great progress which the Institute has made in the short time that it has been established, as evinced in the cordial support it has received from the members of the architectural profession, its patrons, and the public in general, which seems to favour what has been so often adverted to, that such an establishment was much to be desired; and if it be conducted upon right principles, with a view to the general good, and free from any narrow views of personal aggrandisement or exclusiveness, it will doubtless attain a high rank amongst the useful and honourable institutions of the empire. — *F.*

Drawings of Ancient Domestic Architecture. — The following is the substance of what was delivered by Mr. Britton. " In exhibiting the series of drawings which are now before you, I own that I am submitting to a learned and severe ordeal; but when it is understood that these drawings were prepared with great rapidity, and intended to illustrate and accompany a course of lectures on the architecture of the middle ages; and calculated rather for distant and general effect, in large rooms, than for minuteness of detail and close examination, I cannot doubt but every architect, as he is a perfect judge in such matters, will also be a liberal and indulgent critic. On the present occasion, they are brought together and displayed for the purpose of suggesting sources for information; of pointing out forms, arrangements, designs; and it is not improbable but that one or more of them may prove useful to the professional architect, in showing something good to profit by, and bad to avoid. However extensive may be our travels and our studies, the immense extent of space over Europe alone, and the countless variety of objects, show to the oldest and to the most learned traveller that there is much still to learn, and many things to explore, worthy of critical examination. In exhibiting these various drawings, representing so many buildings of different ages, different details, and different form, character, and design, I do not say that it would be advisable for an architect to copy any one of them for a new edifice. Unlike many of my brother antiquaries, I have always opposed the system of copying or imitating any preceding work, however beautiful it may be, however much it may have been admired and praised. Even a fac-simile of the Parthenon at Athens, or of the elegant chapel of St. George at Windsor, would scarcely deserve our praise, and would be unworthy of an architect to execute. The common mechanic may be excused for doing such things; for he cannot invent, cannot design. It will be the duty of such a Society as the present, to prove, to their employers and to the world, that there are many English architects who have genius and science to compete with the famed architects of old, if they have patrons to support and duly appreciate their talents."

A new Theatre, from the designs of an architect who is appointed to superintend its erection, is to be erected in King Street, St. James' Square, for Mr. Braham. — *Tyro. Wilmington Square.*

Art. II. *Retrospective Criticism.*

Candidus in Reply to Mr. Britton. (p. 379.) — When I saw it announced on your wrapper that you had received a communication from Mr. Britton, regarding the unworthy correspondent who so inappositely, it seems, styles himself Candidus, I anticipated a severe lecture for my very free animadversions upon the Soane medal affair. Fortunately, however, Mr. Britton had " neither time nor inclination" — a strange confession that last — to take me to task for my naughtiness in presuming to speak so irreverently of what some have since styled the " Soane Apotheosis," otherwise than by characterising my article as ill-natured and unfair. To good-nature I make no pretensions, considering it on similar occasions to be just good-for-nothing; but, as to unfairness, I do not think I manifested any in attacking and holding up to contempt a farcical exhibition of the most fulsome flattery, conducted in the very worst taste imaginable; and, as Mr. Britton owns he has no inclination to dispute that point with me, he must participate with me in the odium he seeks to fix upon myself exclusively. No one can accuse him of not being sufficiently *candid;* rather will it be thought that he has in this instance pushed his candour to the extreme of *mal à propos naïveté*, and abandoned as impregnable those very comments which most persons will imagine imperatively required, if noticed at all, to be met by a direct exposure of their illiberality or their absurdity. Or am I to conclude that, with all the inclination possible to counteract my " unfairness," Mr. Britton found it more convenient to plead want of time, when in reality he should have said

> ———— " Cupidum, Pater optime, vires
> Deficiunt."

Letting alone, however, what he virtually admits to be unanswerable, it behoves me to reply to his plainly expressed charge of falsehood. Mentioning several architectural works, I said none of them, I believed, were in Sir J. Soane's library; and the reason for my belief was, that, when some few years ago I had an opportunity of looking over the manuscript catalogue, not one of them was in it. That those, and other works of the same class, may since have been purchased, I do not dispute; although I have reason for suspecting the contrary. But while he accuses me of falsehood, for merely stating what I conceived to be correct, Mr. Britton himself does not seem very well informed as to the exact truth; since he only *believes* that all the works enumerated by me are in Sir John's library; a rather unsatisfactory assertion on the part of one who has been so scrupulous in distinguishing between glazed bookcases and bookshelves, although the difference was hardly worth calling attention to, except it be in proof of my " unfairness " in misrepresenting facts! So, then, he only believes they are all in Sir John's possession; on which I must remark, it is singular indeed that my belief should have happened to have stumbled upon the very publications as absentees, which Mr. Britton's belief finds in the " mahogany glazed bookcases;" the more so, as I have particular good cause for supposing that of one of them not a single copy has yet found its way into this country. Surely, it would have been more to the purpose, had Mr. Britton positively specified which of such works really are to be met with in that unique collection; and whether it contains any others equally worth notice which I had passed over. I may have been led into error by the catalogue, yet that hardly amounts to so serious an offence as deliberate falsehood; nor need I feel ashamed of being corrected. Yet why, of all men in the world, Mr. Britton should so officiously step forward to vindicate the reputation of Sir John Soane's " bookcases," I do not understand; knowing that he, some time ago, shifted the odium of a very ungentlemanly transaction from himself to no other than the same Sir John in whose behalf he is now so zealous. Hardly will he be at a loss to conjecture what I allude to; and perhaps will thank me for not being more explicit. Should he, however, think fit to call for a less ambiguous declaration, he will then find that truth, no less than falsehood, is dealt in by — *Candidus.*

Mr. Lamb's Villa. (p.337.)—In answer to Scrutator's observations on my villa of the thirteenth century, I have to observe, that, although I think the remarks extremely judicious in most respects, yet I will endeavour to show that they do not apply to the extent which Scrutator thinks they do. I shall first point out the circumstance which has given rise to them. It is my practice, when I prepare a design, to show it to the untutored eye as much as possible in the manner it will appear in the reality; and, in the absence of perspective views, to take some little licences, which, I am sure, even Scrutator will approve. Every practical architect must be aware that geometrical drawings never can

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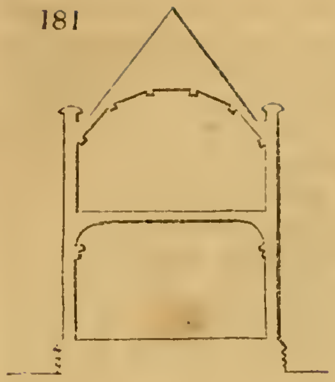

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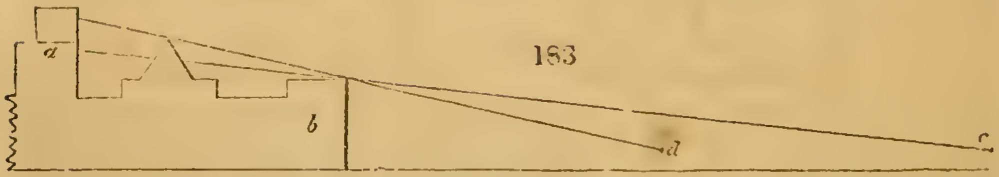

give the representation of a building as it will appear when complete; and that frequently, when a building by degrees developes its perfect form to the proprietor, he begins to find that a tower, a chimney stack, a gable, or some other part, does not show itself in the conspicuous manner which was represented in the geometrical drawing, and consequently he becomes dissatisfied, and fancies that the architect has altered the designs for the purpose of bringing the estimate nearer to the sum he said it would cost. This being the case, it behoves every architect to endeavour, as much as possible, to give such a geometrical representation as will, in some way, answer the purpose of a general view: of course, in such drawings, a scale would be improper to be shown; but dimensions of actual heights can always be given in the margin. Thus the parts gradually receding from that which is nearest to the eye may, in the geometrical elevation, be reduced considerably smaller than the actual scale.

Fig. 183. will more clearly show what I mean. Suppose a person were standing at *d*, 100 ft. from the building, looking towards the centre in a parallel direction; then those parts which are most distant would, of course, be less apparent; and the tower (*a*), which, in the geometrical drawing, would be a very prominent feature, in this view would be scarcely seen; and at 200 ft. distance (*c*) it would appear very much less than its actual dimensions. These forms are constantly varying as the spectator moves from place to place; but if the architect should choose a distance best calculated to show his building to advantage, and, from many circumstances, the most likely to strike the casual observer, he might conscientiously reduce his elevations so that they should give something like the apparent form when built. This is not so great a deception as showing the actual geometrical drawings, which represent the building as it could never be seen, and which should never be done, but when the working drawings are prepared. This practice is the reason of the want of height in the distant parts of my design; and my having neglected to mention this in the description of it has given rise to the remarks of Scrutator. For these remarks I thank him, because it has enabled me to develope my plan more completely, and because it will put me on my guard with reference to the descriptions which I may give of any future plan I may send you. To prove that I had considered the chamber plan and sections, and that, instead of two bed-rooms my plan was arranged for eight bed-rooms and three dressing-rooms, I shall now show, by the accompanying rough sketches, how these are obtained.

Fig. 184. is a plan of the chamber floor: *a*, bed-room 18 ft. by 14 ft., and 12 ft. high in the centre of the room; the form of the ceiling may be seen in *fig.* 181.: *b*, dressing-room adjoining, 12 ft. by 9 ft.: the passage to these rooms is 7 ft. high. I may here remark that the roof over this passage may be made higher without altering the external appearance, as it would be in a situation

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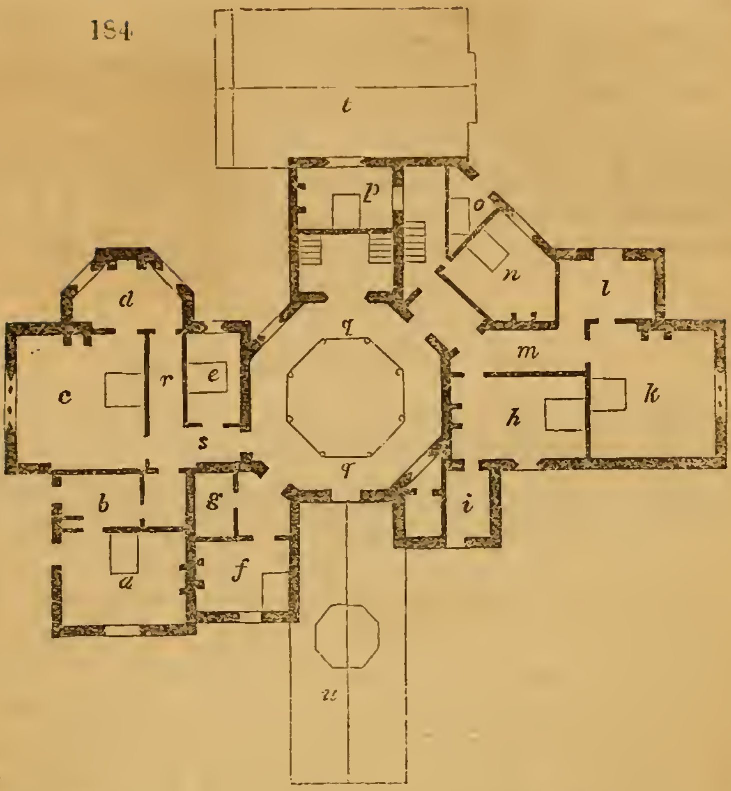

not to be seen. This room is lighted by a dormer window. *c*, bed-room, 20 ft. square, and 12 ft. high in the centre; the section is shown in *fig.* 181., and a rough perspective view is given looking towards the window in *fig.* 182. *d*, dressing-room adjoining. *e*, bed-room, 14 ft. by 10 ft. *r*, *s*, passages. The lowest ceiling in the passages is 7 ft. high, and the highest 12 ft. It will probably be said that passages so frequently varying in height and form will give a very unsightly barn-like appearance to these communications with the different rooms; but I affirm, that this will not be the case if the subject be properly treated; on the contrary, this variety may be made to produce some excellent effects. *f*, bed-room, 14 ft. by 12 ft.: this is, perhaps, the most uncomfortable room of any in the house, as it is only 9 ft. high in the centre. *g*, store closet; *h*, bed-room, 20 ft. by 14 ft., and 12 ft. high in the clear; *i*, a small dressing-room adjoining. *k*, bed-room, 20 ft. square, and 12 ft. high; *l*, dressing-room adjoining; *m*, passage lighted by a dormer window; *n*, *o*, *p*, servants' bed-rooms. It is very easy to see that the one over the stairs is practicable. *q*, landing; *t*, roof of library; *u*, roof of hall and porch.

Fig. 182. the sketch of the interior. Of this I shall merely say, that the form of the ceiling is novel in a modern bed-room, and many prejudices will, perhaps, be called up against it; but, as very few pieces of furniture are more than 7 ft. high, except bedsteads, and if they are higher they are extremely inconvenient, the bottom rib could not be in the way. This form of ceiling might be made pleasing by carefully studying its decoration, and I think it a much better form than the modern white flat ceiling, with a multiplicity of mouldings round it that have no appearance of use, and become painful to the eye from their glaring whiteness and reedy appearance. I am not quite so certain that either in cold or in hot weather these bed-rooms would be so very uncomfortable; for, although part of the ceilings are constructed in the roof, yet there is quite as much space to keep them from heat and cold as in most villas where there is only one story above the ground floor.

The objection to the style is a mere assertion, which, I have no doubt, Scrutator did not mean to creep into his criticism; for every style of architecture is applicable, if the expression of that style be correct, and the accommodation afforded all that is required; but his case in point, respecting low doors, &c.

(see p. 378.), is a very remarkable one. Surely, there must be some mistake in the statement, and the architect he mentions can never have studied architecture for practical purposes. — *E. B. Lamb. Henrietta Street, August* 8. 1835.

Mr. Ross's Insinuation respecting the Competition of the Designs of the Markets at Exeter. (p. 329.) — Mr. Fowler, in a note on this subject, says, "the only person in Exeter to whom I communicated the marks that distinguished my drawings was a friend whom I requested to ascertain that they were duly received; and I do not believe that he ever mentioned them to any member of the chamber. — *Charles Fowler. Gordon Square, July* 29. 1835."

Art. III. *Queries and Answers.*

Messrs. Blunt and Stephenson, Mr. Farey, Mr. Adcock, and Dr. Birkbeck. — What is become of Messrs. Blunt and Stephenson after all their magniloquent promises? Pray make this enquiry in the *Architectural Magazine.* Pray also make another enquiry. For about six years or so, Mr. Farey's book *On Steam Engines, &c.*, has been advertised, with the appendage, vol. ii. in the press, but unluckily it has stuck in the press. Does the author ever intend to give vol. ii., or do the booksellers intend to publish it? Adcock and Birkbeck's *History of the Steam Engine* is another similar case upon those who have, in either instance, been unlucky enough to purchase the published parts. — *R. Dublin, July* 27. 1835.

There are some Buildings in Ireland that I was highly pleased with, one in particular, a modern church near Kingstown Moneton, or Monefort. I had not time to sketch it, but doubt not you have some Dublin correspondent who will do so, and send it, with a description, to the *Architectural Magazine*, as it appears to me to be well worthy of a place there. I likewise noticed a Gothic building near St. George's church, and the north circular road, that is worth your attention; I believe it to be a chapel of ease to St Mary's parish. — *R. V. Worcester, July* 27. 1835.

We shall be much obliged to any Irish friend who will attend to the wishes of our correspondent. — *Cond.*

Blackfriars Bridge. — On passing under this bridge the other day, it occurred to me to ask whether the two slender Ionic columns, on each side of the arches, would not be, as a matter of taste, altogether better removed; as they are too light and insignificant to correspond with the massive masonry of the body of the bridge; and, as the recesses to the footpaths on this bridge are only receptacles for dirt, filth, &c., they might also be entirely dispensed with. — *S. H. P. London, August,* 1835.

The splendid new Office in the Bank of England, by Mr. Cockrell, is finished; and I should be greatly obliged if you or any of your readers would give some account of it to — *A Country Reader. Dumfries, August,* 1835.

Paving Streets with Blocks of Wood. — An experiment is about to be made in the city of New York of paving the streets with wood, after the Russian manner. (*Morning Chronicle,* June 6.) Our Conductor, having visited Russia, must be well acquainted with this method of paving; will he favour us with an account of its construction? — *Tyro. Wilmington Square, July* 2. 1835.

The trunks of trees, from 9 in. to 1 ft. in diameter, are cut into lengths of from 12 in. to 18 in., deprived of their outside or sap wood, then squared, and afterwards set on end as common paving stones are in London. The courts of the larger mansions in Petersburg, Moscow, and Vienna are frequently paved in this manner, not for the sake of durability, nor for any reasons of economy, but simply to lessen the noise made by the wheels of carriages, when coming to set down or take up company. — *Cond.*

THE

ARCHITECTURAL MAGAZINE.

OCTOBER, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *Observations on the Classification and Details of the Architecture of the Middle Ages.* By E. B. Lamb, Esq., Architect.

The study of ancient architecture is fraught with difficulties: one book is examined after another; but, unless you refer to ancient buildings, you seek in vain for a brief and clear classification of the styles, dates, and systems, so essential to the beginner. Many and voluminous, indeed, are the essays on some particular parts of Gothic architecture; but very few can give satisfactory information, fit for the practical purposes of the art. This is only to be acquired by a close examination of our ancient buildings; and, after having gleaned all that can be learned from books, in the first instance, it will be found impossible to acquire the knowledge thirsted after, without sections of mouldings, and forms which can be studied properly only in the original buildings; as these forms are seldom to be met with large enough for practical art, in the numerous works with which the world is stocked. Architectural works, in fact, should be looked upon by the student as only the first step in his researches; as, notwithstanding the most careful and elaborate drawing which is bestowed upon their production (and which, as it is well calculated to lure the eye, and from the beautiful representations of buildings and general picturesque style which it displays, must tend much towards improvement in architectural taste), the details are seldom sufficiently large to enable them to be as properly studied as in the original buildings. The want of this study may, in some measure, account for the deficiency in effect and correctness observed in the modern Gothic; general forms only having been considered by the architect, who, not having acquired a knowledge of the principles of detail, is driven to his own invention; and this generally creates a meagre and insipid design, seldom satisfactory to himself, and often held up to ridicule by others.

I do not mean that ancient architecture should be exactly copied in modern buildings, as this ought never to be the case;

I merely recommend close study, that the spirit and feeling of the ancient artist may be understood, that a modern design may be in the spirit of the ancient style, though not in the actual style, and that the mouldings and mullions proper for one date may not be used in another. The architect should always bear in mind, that it is his duty, as it was considered by the architects of the middle ages to be theirs, to invent forms, and improve upon the architecture of bygone days; yet still to follow the same general feeling, and to create a style perfectly distinct from any other known specimen, which shall be yet perfectly characteristic of the times and purposes for which it is intended. This is to be acquired only by the study of detail, as well as general forms; and by a knowledge of the principles of the ancient architecture, of the forms belonging to the different periods, of the transitions from one style to another, of the nature of the materials, and of the manner of construction.

Architecture is generally considered as one of the important connecting links in the history of a country; and by the peculiarities of its style, and its comparison with record, it affords us an interesting insight into the customs of earlier times. This being the case, it is much to be regretted that, while our national museum contains some of the magnificent remains of Egyptian and Grecian art, so little regard should be paid to the remains of art in our own country, particularly at the present time, when Gothic architecture is making such rapid strides in the improvements in our cities. I have often thought, when it has been found necessary to take down an ancient building, that it was a public loss, inasmuch as the principal parts would be sold to the collectors of relics, and hidden for ever, except to the chosen few. Instances of this kind are constantly occurring: ancient buildings are taken down, being considered either dangerous or inconvenient; the stone is sold, and the carvings, which have delighted and instructed many, are closeted for the benefit of one individual. This is much to be lamented, though it is, at present, inevitable; but, if there were a national repository for some of the best selected of these carvings, they might be still a benefit to the world. Some time ago, the north-west tower of Canterbury Cathedral was taken down, and it is to be, or has been, rebuilt, to correspond with the other, which is of more recent date, although a very fine tower. What has become of the Norman remains of the ancient tower? Would it not have been desirable that some of the choicest fragments should be preserved in our national museum; not only as a record of that building, but as an example of early character. Many buildings are thus destroyed, and leave no trace behind, which might contribute considerably to the advancement of this style of architecture, if some of their fragments were preserved, and easy access could be had to them. At a small expense a very perfect classification of Gothic architecture might be obtained; and, if well arranged, it would greatly tend to diffuse that taste and knowledge in architecture which is so requisite for the promotion of the art. These relics would be constantly before the eyes of the public, who would become familiarised with their forms and date; they would be considered as sacred and valuable records of the history of the art; and would insensibly lead to the preservation of ancient architecture, which has hitherto been so much neglected. It is even probable that churchwardens would catch a little of the infection, and would not suffer a fine building to be "repaired and beautified" by incompetent persons; which has too often been the case in many of our most beautiful buildings. The approaching competition for the Houses of Parliament will at least assist in improving the public taste: it will be the means of awakening the public attention to a style of architecture which raises so many agreeable associations in the mind of an Englishman. In contributing my aid to the illustration of the architecture of the middle ages, I do so with fear, at the same time that I consider it to be the duty of every architect to assist in promoting that general knowledge which is so essential to the advancement of art, and for the purpose of restraining the rude hands of ignorant men in power, from the spoliations which have been too often suffered by our ancient edifices. In this paper it is my intention to confine myself to a simple classification of the architecture of our own country, principally in the windows, as these are leading features in all our ancient building, and a general knowledge of their forms is a sufficient guide to the date of most other parts of the same building.

The oldest specimens of ancient architecture found in our own country may be probably dated as far back as the fifth century, and ascribed to the Romans (as here it will be unnecessary to mention those extraordinary works commonly attributed to the ancient Druids); and these only afford evidences of their authenticity from their mode of construction, as there are now, I believe, no records remaining to throw a light upon the time of their exact foundation. The works in this style which are admitted by antiquaries to be genuine Roman works can be the only standards to refer to; and the similarity of other buildings to these will allow of conjecture as to their date. The nave of Brixworth Church, Northamptonshire, retains some of the characteristics of this style of architecture. The walls have recently, in part, been divested of their whitewash, which disfigured them, and the forms of the arches exposed: they are semicircular, turned with bricks resembling those used by the Romans, and of various dimensions; sometimes in two rims, with a course of bricks laid flat between them, and on the outside rim the soffit of the arch.

rising quite plain, and at right angles to the face. Among other buildings supposed to be of this period are the remains of Richborough Castle in Kent, and Jury Wall, Leicester. In many of the churches in Kent Roman tiles or bricks, the remains of some arches, are still visible; though these remains may be merely the Roman materials brought from other buildings. In the tower of St. Alban's Abbey there is a window of two lights constructed with Roman bricks: in this example, the small pier between the arches may, perhaps, be considered as the prototype of the mullion of a subsequent period.

As the Anglo-Saxons were constantly involved in war, little time was given for the cultivation of the arts; but, about the time that Christianity was introduced in this country, many of the heathen temples were altered to the form required for the new religion. Some were entirely demolished, and Christian churches raised upon their foundations; but the successive invasions of the Danes, and the destruction they every where committed, have left us but few remains of this kind of architecture; and these few so much resemble the Norman style, that it requires the strongest presumptive evidence to assign a building to this period. The general forms were round arches, very few mouldings, massive columns, rudely carved ornaments and capitals, buildings generally upon a small scale, and frequently of unscientific construction. Parts of St. Alban's Abbey are probably of this date; Earls Barton Church, Barton upon Humber, and some few others, are considered in this style.

The increased refinement in the manners of the Normans, their general love of pomp, and, above all, the comparative tranquillity which succeeded to the Saxon sway, produced a new epoch in architecture; though the same general forms were used, the buildings were upon a larger scale, the mouldings were more complex, the ornaments were worked with greater exactness, and the whole improvements were such as would naturally arise from a progression of civilisation.

This style is usually comprised between the years 1066 and 1189, which may also be divided into three periods. The first of these, the early style, immediately succeeded the Saxon, and retained many of its features, with very little decoration: examples of this period may be seen in the nave of Rochester Cathedral, built by Gundulph, Bishop of Rochester, about 1077; the tower and other parts of Winchester Cathedral, built by Bishop Walkelyn, about 1080; the Chapel of the White Tower, London, about the same date; and at many other places. The middle period, or division, may be considered the most perfect of this style: the decorations were every where increased, and the chevron, the billet, label, embattled fret, indent, and nebule, were among the decorations; the interlacing arches were also profusely used. Examples of this division may be seen in St. Bartholomew's Church, Smithfield; South Ockendon Church, Essex; the Church of the Hospital of St. Cross, built by Henry de Blois, about 1136, &c. The third division may, perhaps, more properly be called the transition style, from its consisting partly of the perfect style, showing some of the general features of the next. In this division the pointed arch was frequently used; but the ornaments and mouldings retained the same character as in the last, though wrought with an increased complexity. In some instances the pointed arch appeared earlier, as in the Church of St. Cross: in fact, this church has almost all the varieties of the Norman style. The circular part of the Temple Church in London, and Becket's Crown, Canterbury Cathedral, are in this division: in Durham Cathedral there is also some transition work.

The semicircular arch is the characteristic of the Norman style; but in it the horseshoe, the Moorish, the elliptical, segmental, and pointed arches are sometimes to be met with. Windows with three lights, the centre one being raised considerably above the sides, are to be seen in Waltham Abbey, and several other buildings. In Little Snoring Church, Norfolk, is to be seen a semicircular arch within a pointed one, and these two are encompassed by another semicircular arch, with the sides continued from the springing to the impost. There are many examples where the pointed and semicircular arches are both used in the same place, which may be evidence of transition work. *Fig.* 185. is a section of the jamb mouldings of a window of the middle division. It will be seen by this section that the mouldings are geometrical figures, and are formed out of the flat surfaces of the arches: these arches form distinct recesses, and are very numerous in some buildings. From the peculiar character of the ornament, which, I believe, is always sunk, and never raised above the face of the stone, except in labels, strings, &c., I am inclined to think that much of the ornamental work was carved when the arches were set; indeed, some unfinished work, occa-

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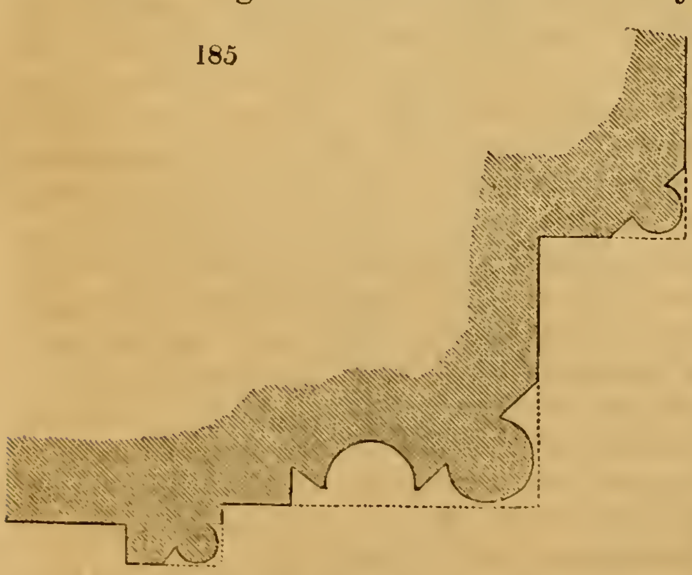

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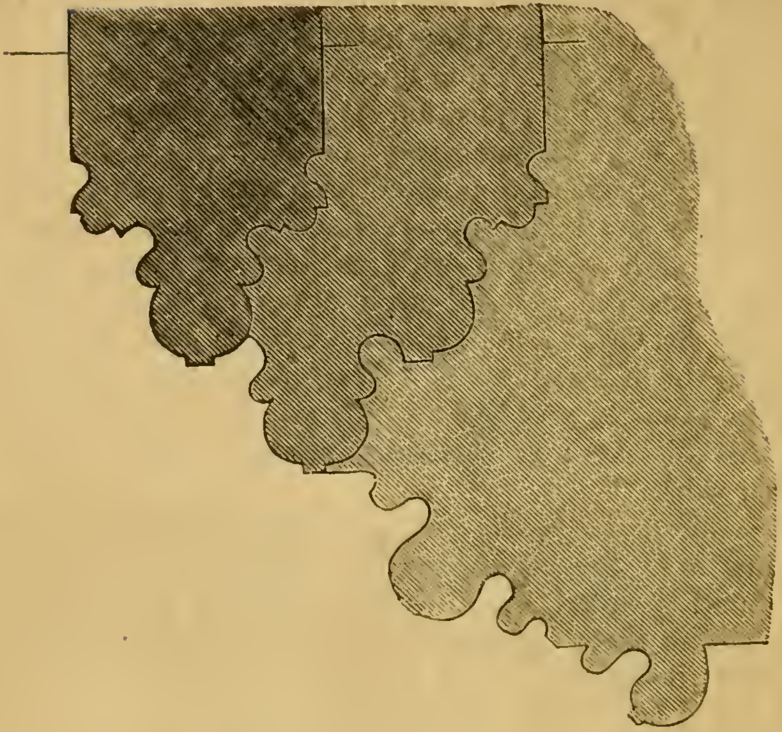

sionally to be met with, strengthens this opinion. Cusps are sometimes found in the later divisions of this style.

The commencement of the reign of Richard I. (1189) is the period usually assigned for the general adoption of the pointed arch, and for the decided change from the massive proportions of the preceding periods to the lofty proportions of the Gothic style, and to that general tendency to perpendicular lines, instead of horizontal ones, which characterised it. Of the numerous names applied to this style of architecture each has its merit in some peculiar way, though but few can be allowed to be sufficiently comprehensive: under these circumstances, I will not presume to add to the catalogue of titles by which it is designated, but shall content myself with the term Gothic, which is generally applied, commonly accepted, and always understood to signify that light and elegant architecture which became general after the Norman style, and which was characterised by the use of the pointed arch and perpendicular lines, as, when so applied, its barbarous definition is never thought of.

The Gothic style may be divided into four classes; viz. 1st Class, which is composed of geometrical forms, in circles and segments of circles, with equilateral and lancet arches; 2d Class, with ramified tracery, sometimes resembling the fibres of leaves, and equilateral and lancet arches; 3d Class, with perpendicular lines, and compound arches; 4th Class, also, with perpendicular lines and compound arches continued, but increased in rich-

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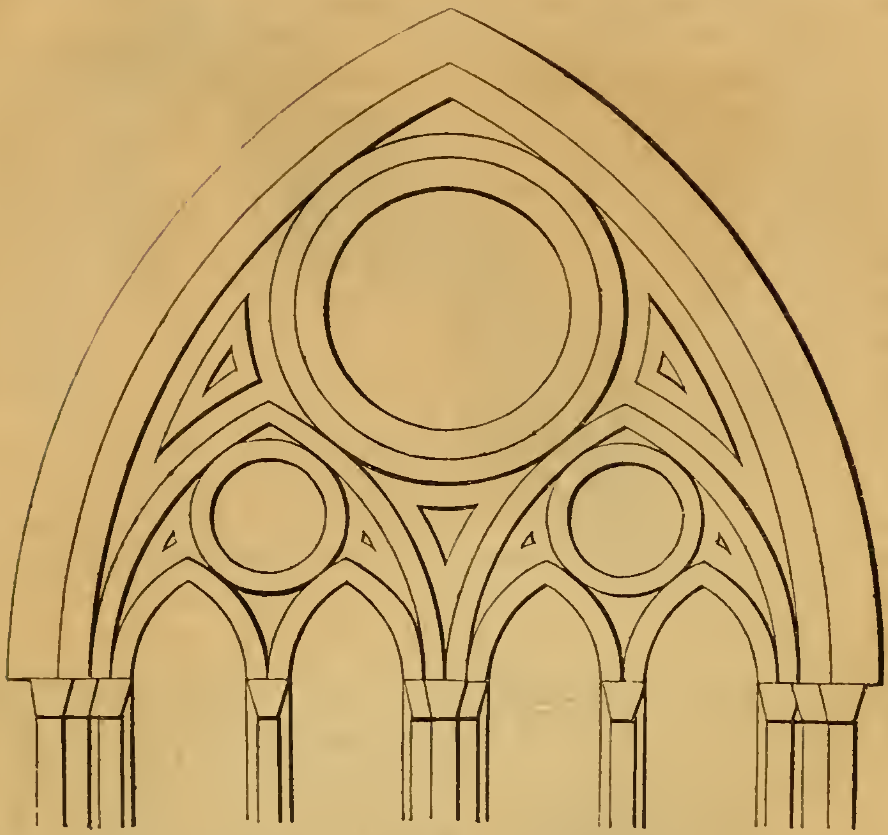

ness and the number of mouldings; the general proportions being, consequently, more heavy in appearance.

The First Class of Gothic Architecture commenced in 1189, and continued till about 1272; and in the first division of this class many of the mouldings and ornaments retained some of the characteristics of the Norman style; while, among its principal decorations, slender marble columns, highly polished, appear very conspicuously. These columns were introduced perfectly unconnected, except by the capital and base, and were frequently carried to a great height. Where they remain in our buildings in their original state, they produce, by their richness, a beautiful contrast to the plain stone. The square recesses of the Norman style were now changed to plain splays, chiefly in the exteriors, though the interior mouldings were still governed by the same general principles. *Fig.* 186. is a section of the arch mouldings of the east window in the north aisle of Stone Church, Kent, which will show the character of the mouldings of the middle division of this class; and their distinctive marks will be seen by a comparison with those in *fig.* 185. The degree of progress obtained in the mouldings of this period will also be seen; and, by again comparing the section, *fig.* 186., with the elevation, *fig.* 187., something of the same geometrical character will be observed. *Fig.* 188. is a section of the window jamb, or architrave, below the springing of the arch, which more distinctly

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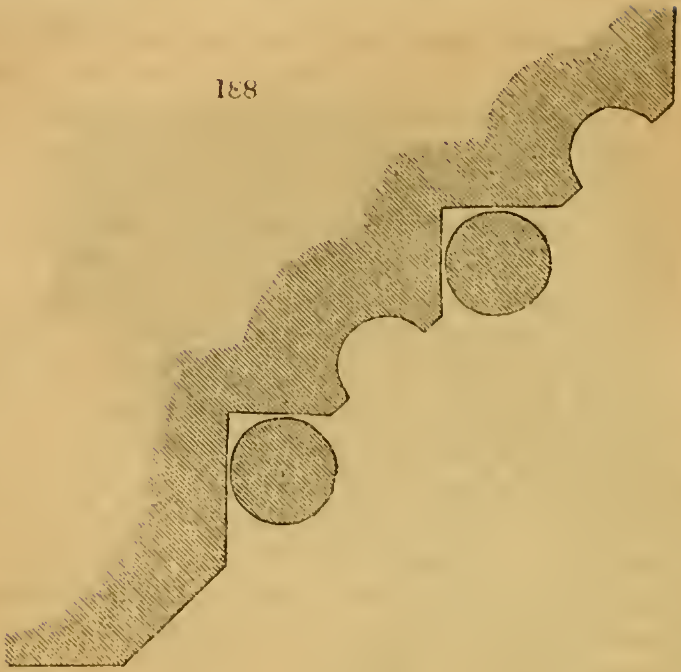

shows the splay before alluded to: it will be proper to mention that this section is not taken from the same window as the other, as that could not be obtained, in consequence of the lower part being entirely enclosed with brickwork and plaster. In this, (*fig.* 188.), which is from a window of two lights in the same church, are shown two isolated marble columns. *Fig.* 189. is the section of the exterior jamb moulding of the same window. The external elevation of this window is given in p. 271. *Fig.* 190. is another specimen of an exterior architrave and label moulding from Rochester Cathedral. *Fig.* 191. is a section of an exterior jamb moulding and mullion, of the first division of this class, from Rochester Cathedral.

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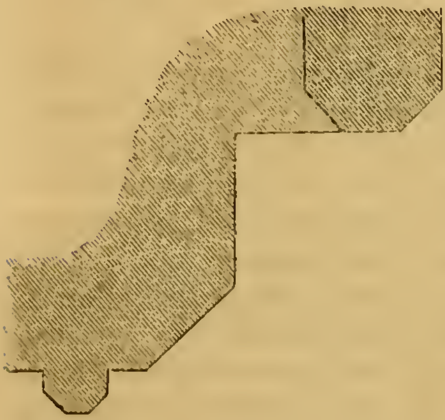

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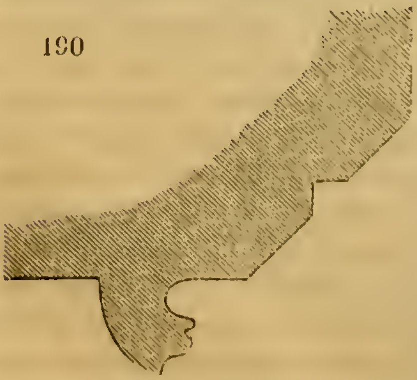

The middle division of the first class of Gothic architecture had scarcely reached its highest point of beauty when it began to decline: and, first, the slender lofty marble column, which had been, from inexperience, formed of marble the laminæ of which were perpendicular instead of being horizontal, split into several pieces, from the weight it had to support;

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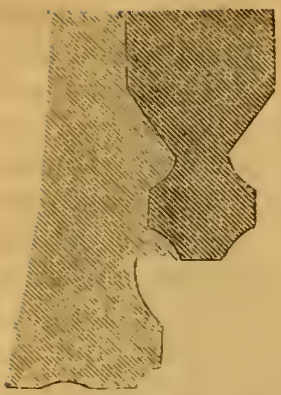

and, consequently, a substitute for this was rendered necessary. This was found by connecting the columns to the mullions in the last division of this style, and by running them up in smaller piers of freestone. The marble column thus gradually got into disuse; and this will account for the decay of many of our early Gothic buildings, and for the necessity, in the next class, of putting in new windows. In buildings of this period, it is not an uncommon thing to see capitals and bases without the shaft of the column. Here, we may reasonably suppose, once stood a marble shaft, which probably split and fell, though bearing little more than its own weight. In the early division of this class, few cusps were introduced into the window heads, and these were only in the perfect figures of the upper parts. Examples of this first division may be seen in Barnes Church, Surrey; Rochester Cathedral, &c.; and of the middle division, in Westminster Abbey, about 1245; Wells Cathedral, 1220; and in the east end of New Shoreham Church, Essex, 1220. Stone Church, Kent, is of this division; and in this church, which is one of the most perfect specimens of this class of Gothic architecture, it is curious to observe the increase of richness in the architecture as you proceed from west to east: this practice, which is, I believe, to be seen in all our ecclesiastical edifices, is, in this one, very conspicuous. Of the third, or transition, period, some examples are to be seen in Little Maplestead Church. The characteristic arches of this class are the equilateral and the drop arch, with occasionally the lancet specimens of windows (such as are given in figs. 134. 151. Vol. I. p. 293. 331.). The toothed ornament was much used in this class, in the hollow mouldings; beautiful specimens of which may be seen in Stone Church, and in the arch leading to St. Bartholomew's Church, Smithfield; also in the restored Lady Chapel, Southwark.

The Second Class of Gothic Architecture commenced about 1272, and continued to 1377. The fault discovered in the marble columns of the preceding class was the means of their disuse; and their places soon became supplied with mullions formed of the same moulding as the tracery mullion; and the geometrical figures of the window heads of the last class were, by slow degrees, made to take the undulating form which belongs to this class. *Fig.* 192. will show the

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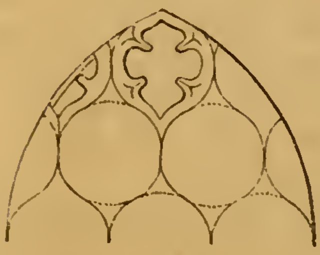

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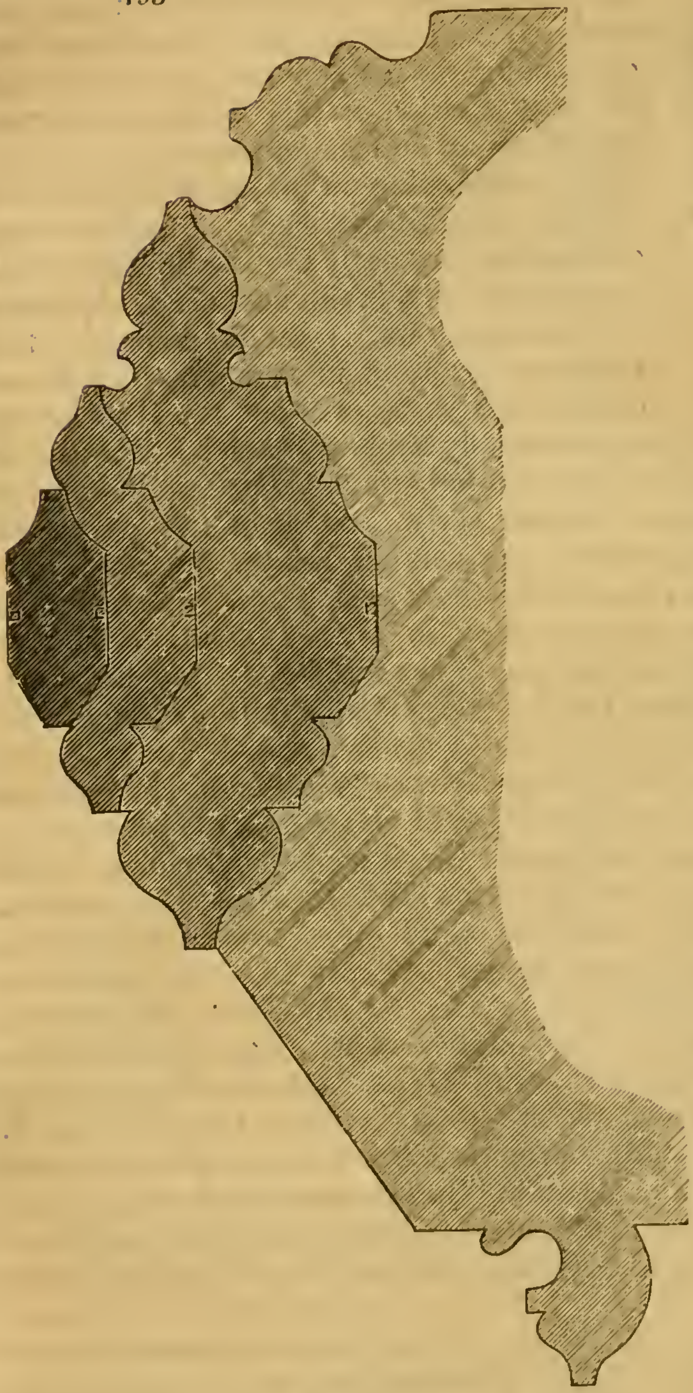

probable origin of this style. In the first division of it, the tracery and mullions were of the simplest kind, and seldom exceeded a hollow or splay and fillet, both inside and outside: but the fertile genius of the ancient architect soon produced improved forms; and the windows of the middle division of this class are justly celebrated for their elegance of contour and diversity of design; much of the tracery resembling in the outline the fibres of leaves. Sections of the jamb mouldings are shown in *fig.* 194. In this section the splayed jamb shows very distinctly that the hollows are remains of the last style; but the mullion is very different. As I have endeavoured to point out, in the other class, the connexion in character between the section of the mouldings and the window heads, here I will again mention this circumstance. The sections of the mouldings, *fig.* 193., are of a less abrupt and geometrical style than those of the first class; and they partake of the easy flowing lines which are conspicuous in the tracery, and which in both are perfectly distinct from the other class. Thus it will be observed, that the ancient architects, when they diverged from the general compositions of their predecessors, retained the

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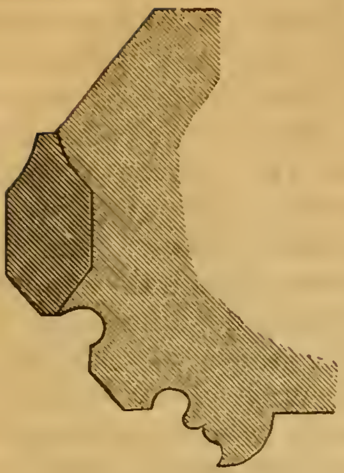

same spirit in the new designs; for when the change of circumstances necessarily produced a change in the buildings, the spirit of fitness and propriety was still adhered to.

The characteristic arch of this class is the equilateral; and the bulb ornament, or ball flower, frequently used in the architrave, or jamb mouldings, belongs to this period: it consists of three leaves clasping a kind of round petal. In some windows this ornament is carried round the hollow of the mullions and tracery, as at Gloucester Cathedral. Examples of the first division of this class may be seen in the organ screen in Canterbury Cathedral, 1304; St. Peter's Church in the Tower of London; Chapel of St. Stephen, Westminster, about 1330, &c. Examples of the middle division of this class will be found in the spire of Salisbury Cathedral, parts of Rochester Cathedral, and in many of the churches at Oxford; and in most of which buildings there are also examples of the last or transition division, which may also be seen in the west end of Gloucester Cathedral.

The Third Class commenced about 1377, and continued till 1460. In the first division of this class the equilateral arch was given up for one struck with two centres, of an obtuse form, which was much used with the four-centred arch (*fig.* 195.). The window heads were filled with tracery in perpendicular lines (*fig.* 196.), the predominating character of the whole of this class, and the mouldings became gradually more complex. The windows, for some time, retained the simple arch, the compound arch only being used in small openings. Windows were divided in their height by transoms, and sometimes columns were added to the mullions. *Fig.* 197. is a section of a small window jamb at Ifly Church, which shows the general character of the mouldings of the second division of this class. *Figs.* 197, 198, 199, 200, 201. all resemble each other, and mark the distinctness of the mouldings from those of the second class. In these sections it will be observed, that, although the mullions do not, in a very great degree, appear to differ from the mullion mouldings of the

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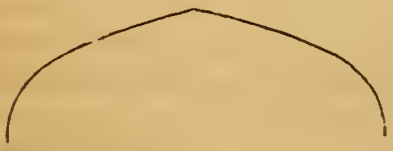

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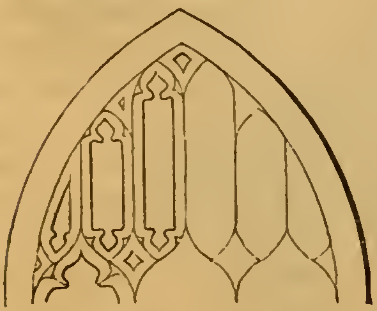

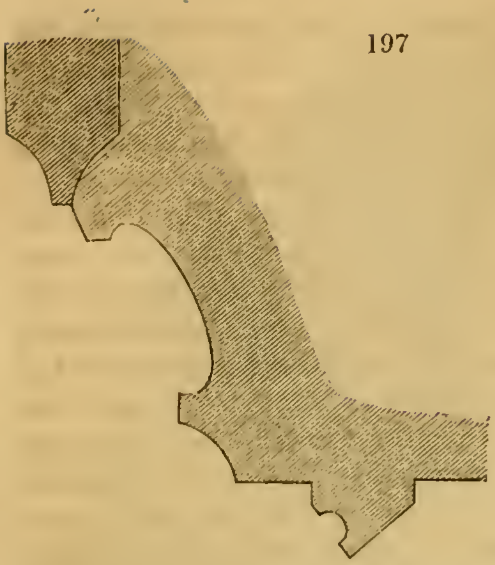

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second class, yet the extended hollow moulding in the jamb is perfectly in character with the depressed simple, and also with the compound, arch. It is very different from the easy flowing lines of the second class; and the mullions, though they appear, as I before mentioned, to resemble those of the other class, upon closer examination will be found generally to be of a more bulky character. The elegant flowing lines of the second class are, indeed, in no instance to be seen in this, and the expression is of a widely different nature; for, while the former indicated a graceful undulating character, without interruption, the latter is expressive of a degree of abruptness and crispness peculiarly its own: at least, these are impressions made upon me by these two classes; and they appear to arise from the obvious difference in the expression. A profusion of heraldic devices were among the principal decorations of this period. Among the examples of this class are, of the first division, New

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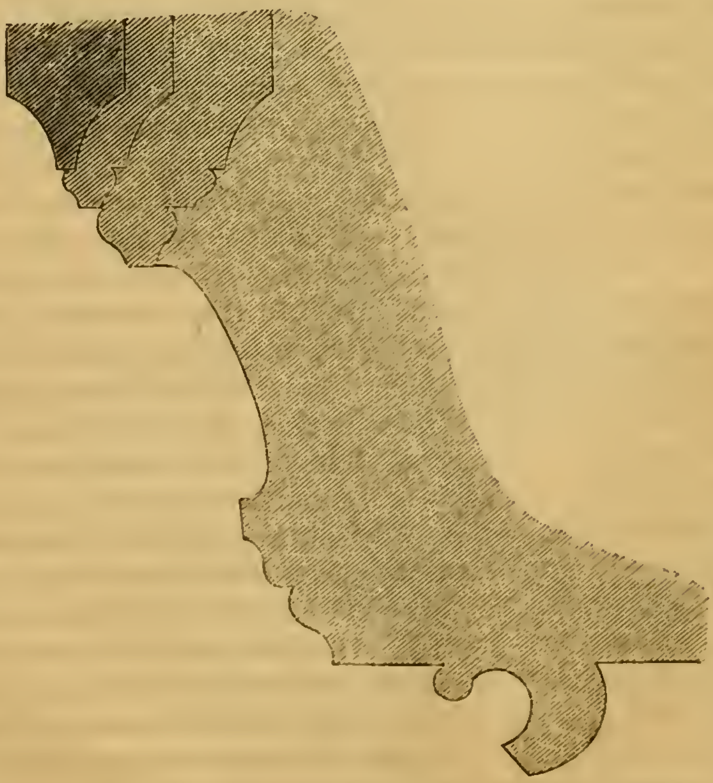

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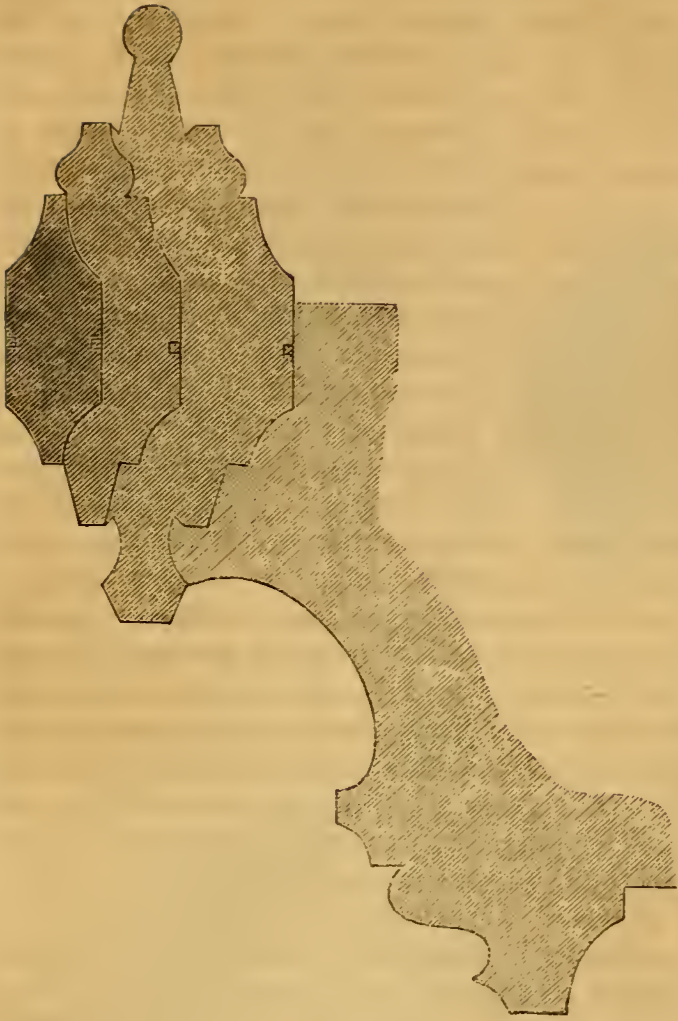

College Chapel Oxford; a window in Westminster Hall; and the west door of St. Saviour's Church, which is a fine specimen of the middle division; a window in St. Peter's Church, Oxford, of which *fig.* 198. is the section of the jamb; also Merton College Chapel, Oxford, 1424; and King's College Chapel, Cambridge, 1443. Of the later, or transition, division of this class, may be mentioned the Chapel on the Bridge, Wakefield, Yorkshire.

The Fourth Class is a continuation of the same general forms, from 1460 to about 1547. The mouldings, arches, ornaments, &c., were now wrought to a greater degree of richness; and the most delicate work was bestowed on canopies, niches, groinings, and, in fact, on every part, the principal aim appearing to be to produce stone carving of a net-like character, rather than to preserve good composition by agreeable contrasts. The result of this lavish display of ornament ended in a generally depraved taste, and the consequent decline of the art. Examples of this class will be found in Magdalen College, Oxford, about 1473; centre tower of Canterbury Ca-

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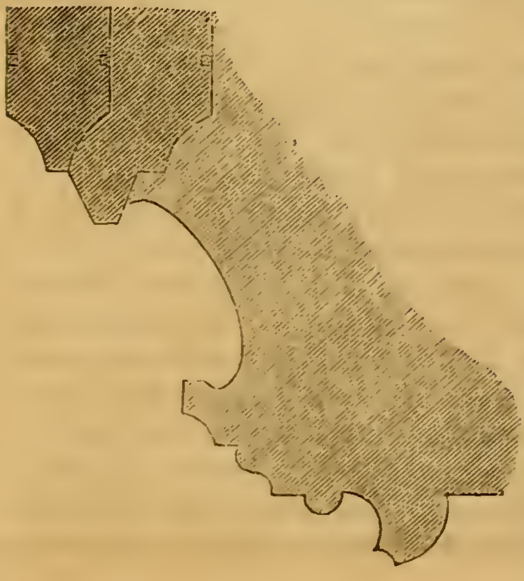

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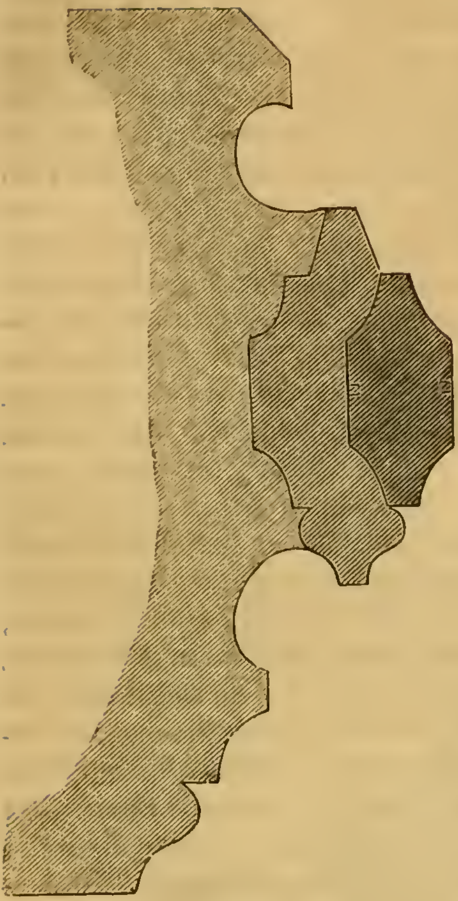

thedral, about the same date; St. George's Chapel, Windsor, 1481; and Henry VII.'s Chapel, Westminster, about 1503. In Henry VII.'s Chapel, and, in fact, in many of the buildings of the fourth class, we can trace a general decline in the art, without alluding to the wearisome richness, which becomes fatiguing to the eye for want of repose. I have no doubt I lay myself open to much reproof for presuming to differ from the accepted opinion with regard to this class of architecture; but I think I need only refer to the exterior of Henry VII.'s Chapel in vindication of my assertion. This exterior is cut into so many small parts, that there is scarcely any situation from which a pleasing view of it can be obtained; and the principal charm which it possesses in point of effect is borrowed from its contrast with the Abbey: the whole exterior, in short, is a multiplicity of angular projections, which throw no shadow, and, consequently, produce no relief. The interior is much better: the effect here is good; the light and shade, being distributed from the large clerestory windows, are more pleasing; and the fan-groining and pendants of the nave and aisles produce a rich effect: but, still, I cannot see the beauty of these angles and curves, even in the interior; though they are certainly better here than on the outside.

In the latter division of this class, the mouldings and mullions were changing their pure form, and becoming mixed with the Italian architecture, which was, about this time, making great progress in the formation of that mongrel style now called Elizabethan; and many examples of this transition work are to be seen in Oxford, Cambridge, and London. Eastbury House, Barking, in Essex, is a fine specimen of the brick buildings of the early part of the reign of Henry VIII., and contains more pure mouldings than most of the other buildings of that time: it is built entirely of brickwork; mullions, transoms, and the most delicate ornaments, being all executed in brick. *Fig.* 202. is a section of one of the window jambs and mullions. *Fig.* 203. is a section of a mullion and jamb of the transition character.

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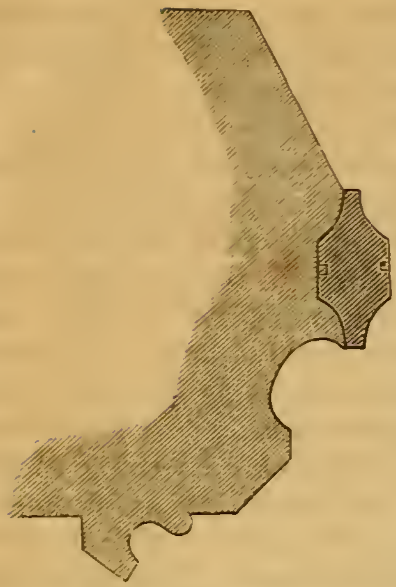

In this figure it will be seen that the jamb mouldings are a hollow and ovolo, and that the mullion is an ovolo and fillet on one side: the other side, in the same section, is to be seen in the second class occasionally.

The Elizabethan architecture now became the prevailing style, and continued to hold its rank until Inigo Jones succeeded in changing the public taste in favour of what was then called the perfect Italian style.

The characteristics of the Elizabethan style are the regular entablatures, columns, pedestals, and arches of Italian architecture, interwoven with the pointed arches, enriched spandrils, heraldic devices, and other decorations of the Gothic. Orders were used over orders, and in situations where they were placed in direct violation to all reason. In one of the colleges at Oxford, the whole of the five orders are piled one above another in one narrow front. These entablatures and columns were adorned with the most clumsy devices; such as scrolls abruptly terminating in angles, carvings of vegetables in bunches, &c., and buildings being surmounted with obelisks, balls, scrolls, and numerous fantastic devices, without the least reason being shown for their use. In some instances, this style has a very picturesque effect; and, when a sufficient excuse can be shown for its introduction in public buildings, that is the time, and the only time, where it should be introduced; but national buildings should be in a more perfect style. The bad taste shown by the building committee for the Houses of Parliament, in recommending this style of architecture for their senate house, must be obvious to every person who is the least acquainted with its details: there is ample scope for talent in the pure Gothic style; therefore why revive a style which only marked the decline of the art?

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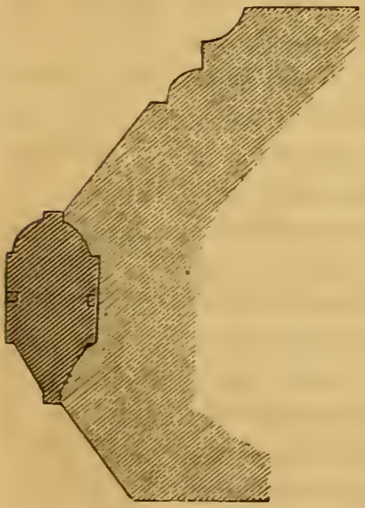

It only remains for me now to say a few words relative to the Gothic mullion. Windows are divided into lights by mullions of various sizes and section; and each window consists of an outer arch, or frame, the jamb or architrave mouldings of which are perfectly distinct from the mullion, or column. Mullions are divided into orders; and the small mullion, which generally consists of a hollow and a fillet, or of a splay and fillet, is the first order: it is from this order that the cusps spring in every class; and for that reason it is sometimes called the cusp mullion. Windows of two, three, and sometimes more, lights, have only one order of mullions, particularly windows of the second class; and this single order is continued through the whole of the ramifications of the window head. An increase of strength and richness was produced by the introduction of the second order of mullions; and this was obtained by increasing the thickness of the first order, and adding another moulding to the fillet; which, from the increased thickness, required something to fill up the fillet, and, at the same time, to add to its strength. *Fig.* 186. will show the two orders of mullions of the first class. These had different offices assigned to them: thus, the first order, being the smallest, formed the smallest composition; the second order, from its increased size, formed the larger divisions of the window; and so they might proceed to a third, fourth, fifth, &c., each successively growing out of the other: and the window, *fig.* 187., will show their application. I need scarcely say that the largest order of mullions contains all the others, so that the smallest goes round the whole of the window head. *Figs.* 189. 191. show only one order of mullions; *fig.* 186. shows two orders of the first class; *fig.* 193. shows three orders of the second class, the first of which is the tracery or cusp mullion; *fig.* 194. shows one order. It will be observed that the tracery mullion is the same in every window in these figures; and that, though there are instances of two orders being used in tracery, even then the cusp proceeds always from the first order. The cusp rises out of the hollow of the first order, and, in the first class, frequently terminates with a flower, and sometimes square; in the second class it is formed, generally, by the intersections of two segments of circles, but is sometimes square, or a kind of blunted point; and, in the third and fourth classes, it terminates in an angle, and sometimes a flower is attached to it. These rules are not without exceptions; for the artists who could produce such wonderful combinations as are to be found in the architecture of the middle ages, so full of variety and originality in every class, would not be restrained, in the flights of genius, to the same forms or ornaments throughout the same building; and, in every building we examine, we find something to add to our stock of knowledge which we never dreamed of before.

In tracing the change of mullions through the different classes of Gothic architecture, it is curious to observe, that the mullions of the fourth class have been continued down to the present day

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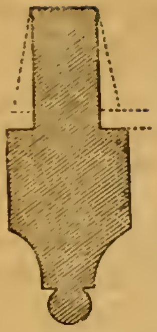

in our sash bar. In Queen Elizabeth's time, windows were divided into a greater number of lights with transoms; in King James the First's time, they became still more numerous in their divisions, but the mullion was not so bulky; and by degrees the windows had as many transoms as mullions, while every fresh complication of mullions and transoms produced a decline in the thickness; and even the general introduction of the Italian style only tended to decrease the thickness of the mullion, but not to alter its general form.

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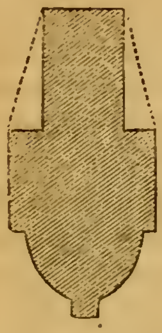

I am not aware of the exact time when the lines and weights for windows were first introduced; but when they were known they soon became very general, and, I have no doubt, assisted in the reduction of the mullion, which continued to dwindle to what are now called the ovolo, and the astragal and hollow sash bars. *Figs.* 204. and 205. will show these sections. *Fig.* 206. is the section of the mullion of Queen Elizabeth's reign. The great demand for novelty in the present day, and the use of large squares of glass, have been the means of producing new forms, which are so very thin as to be scarcely visible: these are designated by the titles of lamb's tongue, and the bevel bar.

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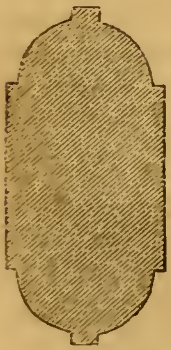

In the foregoing remarks, I have endeavoured to give a classification of the architecture of the middle ages, very imperfectly, I am aware; but if these observations should induce some one to institute a fuller enquiry into the architecture of this country, and if my remarks should be of the least service to the general reader, in assisting him to find the cause which produced the great effects in the edifices of our forefathers, it will be a gratification to think that I have not studied in vain.

Henrietta Street, Brunswick Square, August, 1835.

Art. II. *Thoughts on the Origin, Excellencies, and Defects of the Grecian and Gothic Styles of Architecture.* By the late Dr. James Anderson.

(*Continued from* p. 389.)

Much has been written about originality and imitation in architecture; and many attempts have been made to show that the architecture which has been called *Gothic* is not an original invention, but merely an imitation of the *Grecian*. For my own part, I consider it as a matter of very little consequence, whether it be an original invention or not: all that I conceive to be worthy of investigation is, whether it be really useful, and well suited to the purposes for which it was intended. But, with a view to set aside such trifling discussions in future, I shall in a few lines endeavour to give some sort of definite meaning to those two terms (indefinite as thus used) *originality* and *imitation*.

A gentleman, to whose opinion I pay much deference, thinks that the characteristic feature of genius is *invention*. It may be so; but before we can determine this point we ought to be able to say, with a precise discrimination, what invention is. In considering this question, it appears, that invention must mean either the discovery of things that have no prototype in nature, or of things that owe their origin to some object in nature which may have suggested ideas that, under different modifications, may have led to the invention. In the first case, as all reasoning must be founded on facts, and as in that case there can be no facts on which reasoning could be founded, any discoveries that might thus be made never could be derived from mental exertion of any kind, but must be the result of accident alone; and assuredly no one would say that such discoveries would entitle him who made them to the name of a person of genius: nor could such discoveries themselves be called inventions in the strict meaning of the word; but they must be rather called casualties. The word invention always supposes that an improvement, beyond what was formerly known, has been made, in consequence of some mental exertion, which necessarily supposes the preexistence of some object or prototype upon which the mind could operate, and so modify it as to produce the unexpected effect that had been attained. With this limitation of the word, I should have no other objection to the above definition of genius by my friend, than that, in consequence of being indefinite, it has led to that kind of confusion of ideas which gives rise to perpetual disputes. To avoid this, I should rather be inclined to say that the essential characteristic feature of genius may be called, " the faculty of observing such objects as come within the verge of human cognisance with an accurate discrimination, and of seizing the circumstances which characterise them with promptitude and certainty, so as to make a lasting impression on the memory, where they remain stored up, as it were, like tools, to be ready whenever occasion shall require them to be called into action, and to be separated from or combined together so as to produce striking and unobserved effects, calculated to attain the purpose at which we aim in the most direct manner, and with the happiest facility." Invention, according to this definition, would be a natural concomitant of genius, and therefore might be admitted as a proof, if you please, that genius did exist. But the faculty may exist without being exercised; so that genius may be allowed to lie dormant without discoveries (which are usually confounded with inventions), as discoveries may be made without genius (invention). In like manner prototypes may be suffered to pass long unobserved in nature, without being modulated by the power of genius, so as to produce those effects of which they were naturally susceptible, and thus afford unused materials, if you please so to call them, for future inventions, to which no end can possibly be ever assigned.

If we apply this reasoning to the subject in question, we shall be able easily to perceive, that the inventors of the Grecian and the Gothic modes of architecture (as they have been characterised in the preceding parts of these essays) are alike entitled to be called inventors; and that they both proceeded after the same manner to separate and combine together known objects, so as to produce new and striking effects calculated happily to accomplish the purposes they wished to attain. It is plain, that in both cases the hints which set their minds at work were borrowed from objects cognisable by their senses, and that these were so modified by a chain of progressive ratiocination, grounded on the known qualities of bodies, as at last to attain that degree of perfection in art which had not been formerly reached by other men; so that they both alike claim to be styled inventions.

As to the allegation, that the Greeks had used columns as pillars before the Gothic artists did so, and that therefore they may be said to be imitators only, and not inventors; as justly might others allege, that as the stems of trees had existed, and had been used as props long before the Grecian colonnade was devised, therefore the Grecian artists were not entitled to the name of inventors, but imitators only. And by the same mode of reasoning all other inventions might be transformed into mere imitations: but this would be so to confound all language, as to render a free communication of ideas between man and man impracticable.

The difference between an imitator and an inventor I should take to be this: an inventor contrives devices to effect purposes that either have not been effected at all, or that have not before been effected by means of the same kind; an imitator tries to effect the purposes he aims at by the same means that have been formerly employed, either with as little variation as possible, or with such slight alterations as, without making any essential deviation in point of effect, make some small alteration in form or other circumstances. For example, I should consider all the varieties of the Grecian colonnade as reducible to the head of one single invention; because every essential purpose that can be effected by any one of them can be effected in the same manner by the whole; so that, if it could be ascertained which of these was the original, I should call all the others only imitations of it. In like manner I should consider the different varieties of the Gothic architecture as one invention; because they are all adapted to produce similar effects by means that had never before been applied to such purposes; and so on of others. Without detaining the reader longer on this barren branch of the subject, I shall now proceed to make a few concluding remarks on the whole; which will chiefly respect some farther peculiarities affecting the Gothic mode of building, rather as objects of taste than as fundamental principles.

Those who believe that an inventive genius always proceeds upon the idea that it finally adheres to in the end, would have no difficulty in discovering the prototype, which he would be persuaded had influenced the mind of the Gothic architects in conducting their plan of building. The ribs that branch off on all sides from the top of the column for the support of the roof have so much the appearance of the branches springing from the stem of a tree after it has been cut over; they join with the ribs from the other columns, and sometimes intersect each other so much after the same manner as the branches from a contiguous row of trees naturally do; and the small prominences at the top of the columns so much resemble the swellings that naturally take place where the branches spring out from the stem of a pollard tree; that it is impossible for any one who adverts to all these particulars, not to perceive at once the striking resemblance that exists between two contiguous rows of Gothic columns with the arched roofs above, and two regular rows of some kinds of pollard trees (the lime tree for example) similarly placed, after the branches have attained a considerable size, and have intermingled with each other. This idea is strongly corroborated by the projection of the ribs, which was probably adopted as an appropriate ornament, on account of the beauty observed to result from the roundness of the branches of the trees. The smooth part of the roof seen between these ribs, was sometimes, in conformity with this idea, painted of a clear sky-blue; the ribs were of another distinct colour, and on some occasions even the roof was studded with stars, apparently with a view to represent the sky as seen between the branches. These resemblances are all indeed so perfect, that I cannot entertain a doubt that they operated on the mind of the artist when these ornaments were devised. But that this remembrance entered into his conception when he began to devise this mode of building, I do not see the smallest reason to believe. The system of these artists was in all probability the result of a gradual and slow developement of ideas, progressively advancing from some obscure hints, corrected and matured by succeeding experience for a long period of years, somewhat after the manner described in the preceding parts of this essay, till they attained at last their final completion under the elegant and appropriate forms which they now occasionally exhibit; and the particular above stated was, in all probability, an after-thought only, suggested by the near resemblance that the forms which the structures naturally assumed in their progress to perfection bore to trees in the circumstances above stated. This particularity of form, therefore, I consider as accidental rather than intended; but, in conformity to the general progress of genius, no sooner would this general resemblance be perceived, than the mind would catch the hint and improve upon it, so as to make it contribute to the elegance and beauty of these structures.

I have already had occasion to remark that the Gothic artists appear to have paid an uncommon degree of attention, in order to discover every circumstance that had a tendency to render successful their efforts to perfect their structures; and that they readily adopted every hint which fell within their observation to add strength or elegance to the whole, without servilely copying from any one. The specimen that I have just now adduced of their adopting the hint from the divaricating branches of the tree, for the purpose of giving grace and elegance to the roof, is a striking illustration of this particular; and whoever contemplates one of these roofs with attention, under this point of view, will be compelled to acknowledge that they have availed themselves of it with the happiest effect; but they did not stop here.

They had observed, no doubt, in examining the variety of trees that grow in our regions, that some sorts occasionally exhibit in the bole a kind of regular inequality of appearance on the surface, consisting of something that assumes the form of a kind of veins running in a direction nearly parallel to one another from the bottom to the top, which gave to the stem an elegant richness of appearance, very different from that bare look which a smooth unvarying surface around the whole of its circumference exhibited; more especially when these large columns, from the purposes for which they were intended to answer, were of necessity brought at times very near to the eye of the beholder. With that felicity of discrimination, therefore, which so strongly characterises all their contrivances, they instantly adopted this hint, and modelled it for their purpose. To this hint, I have no doubt, we are indebted for those rod-like ribs that so usually serve to peculiarise their columns, and which, without deranging their general symmetry when viewed at a distance (where they are not perceptible), give a richness to the particular parts as you gradually approach them, and a lightness of effect when you are quite near, which have not yet been equalled by any other contrivance that has been adopted by man for similar purposes. The Greeks also, having felt the same defect in their column, had attempted to remedy it by a contrivance in some measure of the same sort, denominated fluting; though much more clumsy, and, like many other of their secondary devices, much less adapted to answer the purpose intended, than those to which I now refer; as every person who candidly compares them together will readily recognise. Of the Grecian devices of this sort I shall afterwards have occasion to take notice; in the mean while, I may just remark that, on some occasions, it would seem, the Gothic artists had had in view some parasitic plants running up on the outside of the stem, or rods, and bound to it by bands at different heights; but these seem never to have been adopted in the chaster era of the art, and can be considered only as a vicious refinement of after-times: but I have not met with any instance in which they deviated so far into the fantastic walk, as to make these protuberances assume a writhed or twisted appearance winding round the column. That was a refinement left for after-ages.

The principle which they adopted with regard to the column, was also applied to other parts of their structures with the happiest effect; although this particular, like many of the other beautiful devices of these wonderful artists, has been stigmatised by fastidious ignorance as barbarous absurdities. The principle to which I here allude is, to adorn those large and massy parts of their structure, the effect of whose general symmetry can only be seen at a distance, with ornaments so small as that, when seen at a distance, they do not catch the eye, nor mar the general effect; but when to be viewed near at hand, where the features of grandeur cannot be recognised, because the general proportions are lost sight of, these smaller ornaments come then to catch the eye, and exhibit a richness of appearance which takes off from the meagre look of these great objects if left perfectly bare, when viewed near at hand. Had the beholder been limited in his approaches, so as to be able to come only within a certain distance, as is the case with some justly celebrated paintings of antiquity (in which very bold strokes produce, when they are seen at a proper distance, a great and striking effect, although when nearly viewed they appear only coarse and disgusting daubings), our artists might have adopted a similar mode of procedure. But this not being the case, they, observing the operations of nature under similar circumstances, followed her footsteps with fidelity: they observed that scarcely a stalk of grass was to be found which was not marked by certain rugosities or depressions; that there was not the bark of a tree which was not diversified by means of small protuberances, cracks, and fissures, interspersed by variety of lichens and of small parasitical plants, which, though they were not at all perceptible at a distance, gave to them a rich beauty of effect when near at hand, that they would not otherwise have possessed: they remarked that when a living creature, for instance, was seen at a distance, his figure only, and not his features, was perceptible; but when he drew near, and intermingled with society, the smaller features became distinguishable; the form and disposition of the hairs, the pulpy softness or characteristic wrinkles of the skin, the varying motions of the muscles, and the expressive keenness of the eye, all concurred to give to life an energy, expression, and interest, that would have been totally lost had they not been defined by delicate touches which could only be seen when near. From these prototypes, then, they borrowed their ideas of the manner in which ornaments should be adopted in their buildings; and, proceeding on these principles, they have, in imitation of the works of nature, exhibited a diversity in uniformity which we in vain attempt to discover in any other of the works of art. By adverting to these circumstances, many peculiarities of Gothic structures will be rendered intelligible, which have been hitherto deemed singular and unaccountable aberrations. From this view of the subject, too, it will be seen how few of their ideas they borrowed from the Grecian artists.

In many of the most perfect Gothic structures, it is remarkable that, although the ranges of columns and other prominent parts appear, on a general view, to be entirely alike, yet, when they come to be nearly examined, they exhibit an infinite diversity of appearances. The top of one column will exhibit a natural representation of a cauliflower; that of another, clusters of grapes; another, grotesque figures of human beings, or beasts, in a variety of attitudes; and so on round the whole range of natural or ideal existences. It is this which I call diversity in uniformity; for, while the whole is uniform when viewed at a distance, and when only they can be considered as parts of one object; yet, when viewed near, and when every great member comes to be considered as one distinct whole, the reiterated sameness and uniformity of parts become disgusting; and that which was meant as an ornament becomes, in fact, a deformity, from the contemplation of which the mind turns aside with disgust: whereas, by the plan that they adopted, that which pleased as a whole when seen at a distance, continues to afford a new fund of delight when seen near at hand. Like a gallery of paintings, it is not the uniformity of the framing (which, when seen at a distance, is the only observable particular), or the richness of colours continually repeated, that affords delight; but the interest that each separately excites when successively examined, which, by awakening a diversity of varied sensations, keeps the mind alive, and gives energy to its perceptions. Compared with this, how poor is the system of ornament adopted in the Grecian colonnade! In that, every stroke of the chisel is repeated again, and again, and again, with the most disgusting uniformity; so that the mind is palled, and soon sickens at the view. I have often wondered how an idea of this kind should ever have entered into the mind of man, with a view to carry it into execution. Had the columns and their parts been cast in moulds, or impressed with stamps, like our earthen wares, I could have seen a good reason for sacrificing elegance for the sake of diminishing expense; but where the whole was to be executed by the chisel, it appears to me one of the greatest deviations from the dictates of sound sense, and, of course, from the principles of good taste, that has ever been exhibited to the world; and this has been done by a set of men who, in many respects, carried the arts to a high degree of perfection. If, however, the inventors themselves did not discover this imperfection in their art, it was scarcely to be expected that their blind imitators (who have so often misapplied it to the basest purposes, where no blame attached to the inventors) could do it; it was not to be expected, that they should dare to think that anything concerning the art could in any one respect fall short of sovereign perfection. Thus did the Egyptians of old fall down and worship the bull which their own hands had consecrated, and exalt into a deity that which was far inferior to man. And what is man, that he should be considered as incapable of deviating into error? The creature of a day, who knows nothing completely! It is degrading to human nature, to consider that men should have continued to think, to speak, and to act, upon such a principle for so many ages. Justly might the philosopher, who contemplated these things, cry out with a burst of indignant contempt, *O imitatores servum pecus!* Of them it might be justly said, " eyes have they, but they see not." Among this degraded herd, however, must not be ranked our Gothic artists. They opened their eyes, and contemplated the works of God; and in all the wide range of this universe not one single prototype that could cherish this idea could be found. Even man, with all his efforts to mould natural objects into uniformity, has not been able to effect it. He can dress a regiment of soldiers exactly in the same uniform, it is true: he can choose them all of one stature: thus far he can go, but no farther. Each individual can still be distinguished by his shape, his proportion, the features of his countenance, the eyes in his forehead, the hairs of his eyebrows; nay, the very sound of his voice, the structure of his handwriting, and every motion and gesture impressed on him by the finger of God, are diversified in spite of himself, and mark the individual. The same diversity prevails throughout the whole regions of nature; and perhaps the Grecian colonnade is the only object that exists in this universe, in which, without a cause, man has attempted to deviate from this invariable law of nature by adhering to a strict uniformity in every minute particular respecting it.

Though I am inclined to ascribe by far the greatest part of the incongruities observable in the Grecian style of architecture to the injudicious conduct of blind imitators; yet there are some inelegancies (when compared with Gothic practice), perhaps incongruities, which may be traced back even to the inventors themselves. Of this kind may be ranked the naked smoothness of the shaft of the column itself; which, though when viewed at a distance it is in no respect defective, yet when the column is of a large size and seen near at hand, it appears on that account clumsy and bare. The flutings also are, comparatively speaking, tame and clumsy. Still more objectionable are the half flutings that are sometimes introduced. The bulging of the column belongs also to this class, as well as the disgusting uniformity so lately objected to. With regard to all these particulars it must be owned that if the Gothic artists borrowed from the Grecian architecture in any respect, they did it not as imitators, but as most judicious and enlightened improvers: yet I see very little reason to believe that they considered this style of architecture (if they knew it) as of any superior merit, seeing that they departed from its most striking characteristics in almost every particular.

I am not at present quite clear that any instance is to be found among the chaster remains of ancient Greece of the architrave being broken, so as to be made to project over a particular column beyond the general plane of the front. I rather think that the inventors must be freed from the imputation of this striking incongruity; and that this, with many other defects of the Grecian style of architecture, may be traced to the Romans, who were more remarkable for their military prowess than for their skill in the fine arts. I should suppose that it was almost a necessary concomitant of the pilaster; for the projection of a few inches is by no means such a violent departure from obvious propriety as that disgusting projection to the depth of a whole column, which must be made where a single column projects; and which appears, indeed, so shocking to every beholder, that I am inclined to think that our barbarous forefathers, in the earlier period of the dark ages, may claim the merit of introducing it into fashion; at least, the most numerous specimens of it that I know are to be found in monumental structures preserved every where in our cathedrals. It is certain, however, that the Romans did erect monumental columns, in which they adhered to the same principle, by cutting the architrave to pieces, and squaring it all round; thus converting a useful member, which was originally adapted to give strength and stability to the structure, into a useless and incongruous appendage, that by its improper position, and tottering situation, seemed to threaten destruction to all who came near it. This practice however, once introduced, seemed to sanction the idea that a column ought not in any case to be employed without being surmounted by its entablature, however useless it might there be, and however ridiculous it might appear: and when a notion that has no foundation either in nature or sound sense once becomes prevalent, no one can say to what degree of absurdity it may be carried; for, having lost the only real criteria for limitation, we may continue to wander without knowing where we are to stop. Nor could I, perhaps, adduce a more apt illustration of this position than the present case affords.

There is in London a church of most wonderful construction, which has been much celebrated; and deserves to be so, if the effecting what no other person could have conceived an idea of doing can give a just claim to celebrity: for I do believe that there never was an equal number of architectural incongruities huddled together in so small a compass as here; so that I consider it as the *ne plus ultra* in this line. In the church alluded to, we find the Grecian column, though made of wood (not of marble), surmounted by its capital, architrave, and cornice (standing in full pomp, like a Greenwich pensioner with his large cocked hat and bushy periwig), totally detached from all other objects on its own level, surmounted by arches in the Gothic manner, but after the Grecian form and fashion. (Compare with this the graceful springing of the arches from the top of the Gothic pillar. Go for this purpose to the Temple Church or Westminster Abbey.) These arches, whose very existence ought to depend upon the solidity and weight of the materials of which they consist, are made of chips of wood, instead of stone; so that, in order to keep them from falling, they must be bound by internal bars of a straight, not a curved form, that are concealed from view by the veneering with which the whole is covered. To proceed farther in this kind of analysis would prove tiresome: I shall, therefore, conclude it by directing the reader to the church of St. Stephen, Walbrook, where he may have the pleasure of contemplating at leisure this matchless composition: warning him, however, not to let drop any hints of disapprobation, or he will run a risk of being hooted at as a maniac: for there is scarcely any church in England that has obtained higher eulogiums abroad, and from a certain description of persons at home, than this has: nor can it be denied, that it is indeed and in truth a most *wonderful structure.*

The base of a colonnade, like the architrave, is a necessary, and, when of due proportion, a beautiful, accompaniment. This, however, depends upon the idea of giving solidity to the column, and stability to the pile. Its very excellence, considered in this point of view, depends upon its continuity. When it is cut off and squared, like the architrave above described, and the pillar placed upon it when thus isolated, it looks like a man upon stilts, and appears to be so tottering and unstable as to give pain, instead of pleasure, to every person who contemplates it; it therefore counteracts the very intention for which it was reared: yet even this fashion, fantastic and absurd as it must be deemed, has been often adopted, and so frequently carried into practice, that my readers can have no difficulty in meeting with examples of it; and with the conclusions they will draw from that contemplation I leave them.

I might proceed farther in the same train; but the task is ungracious and unpleasing. Enough, I presume, has been said, to show that the idolatrous worship which has been paid to one of the varieties of architecture here characterised, and the indiscriminate opprobrium that has been poured forth upon the other, are alike unfounded. Perhaps a time may come, when they may both be viewed with something more of that candid discriminative impartiality with which one man ought ever to view the inventions of another, than has hitherto been the case. When that shall happen, my object in writing these essays will have been attained.

Art. III. *Modes of Architectural Representation : — Models, Geometrical Drawings, and Perspective Drawings.* By W. H. Leeds, Esq.

Before taking up a fresh subject, I ought, perhaps, to complete some of those I have already touched upon. It was my intention to notice another egregious solecism, occasionally practised in regard to windows, in continuation of my former paper on that subject (p. 148.); and I also made what looked very much like promises, in my last communication, which it may, perhaps, be expected I should attend to. I have, however, so many other topics to bring forward, that, for the sake of variety, I prefer taking up some one of them, lest it should be thought I recur too frequently to the same set of subjects.

The proverb, *nil dictum quod non dictum prius*, certainly does not hold good in one sense, as regards architecture, although in another it is applicable enough; for there is abundance of untouched matter, and fresh subjects for the pen, although those who do write upon it choose to pass them by, and confine themselves to such as have been handled again and again. Among those which have, it is difficult to say why, obtained no notice, is that here selected; and its not having been noticed is one reason for my choice, since, should it really contain nothing positively new in substance, it will, at least, have an air of novelty upon paper.

Before a building is erected, the design for it must be shown in some manner capable of exhibiting what it is to be; and, if possible, what will be its precise effect when executed, so that there may be no after regret or disappointment. This is done by means of models, geometrical drawings, or perspective views. Geometrical drawings are indispensable, because neither models nor views can be made until the architect has so far shaped his ideas; but the other two modes of representation, especially that of models, are by no means in general use, and very rarely indeed are all three of them employed at the same time; yet, in works of importance, it is quite essential that they should be, for to neglect doing so is a very mistaken species of economy, and sometimes occasions an expense very far exceeding the contemplated saving, since no one mode can by itself convey a complete idea of what the edifice will actually be, although, by having recourse to them all, we may prevent any possibility of being deceived.

Even the model, which seems the most certain guide of all, and which has, at least, the advantage of being intelligible to those who are not conversant with geometrical designs, may, if incautiously trusted, greatly mislead. It is, indeed, an exact representation of the building, but nothing more: there is no positive scale for the eye, so that either fancy or inclination may exaggerate its dimensions, and bestow upon it an importance the building itself will not possess. Sometimes, indeed, a figure is put in, to serve by way of scale; but even this will not entirely guard against delusion, because, if the building is to be in the immediate vicinity of others, its height will be more or less affected by theirs. What may be exceedingly well proportioned in itself, and have a sufficiently dignified look when considered apart from any other object, may make a very different figure when it comes to be built. Feeling that it ought to have superior importance, and to display itself to the best possible advantage, people take it for granted that such will be the case; therefore it is no wonder if they afterwards feel something like disappointment, should they happen to find the structure itself, as will sometimes happen, look little better than an overgrown model, being much lower than the houses above which they fancied it was intended to rear its height. Even they who are aware that the building will not be so lofty as those on either side of it, do not always make due allowance for the difference; and the difference of effect so occasioned may greatly exceed that of positive measurement. Delusions of this kind might easily be guarded against, by having cardboard elevations of a part of each adjoining building, that may be fixed up against the model at pleasure. By way of further precaution, if the building is to be in a street, or in any other situation where the view of it will be limited to a certain distance, that distance should be accurately marked by scale, and a card, with a hole in it, fixed at the natural level of the eye, so that the model can be seen through that aperture under precisely the same angle of vision as the building really will be. This would not at all hinder the model from being completely examined, or viewed in any other direction, as the card or board might be attached to a bent wire, made to hook on the model-stand whenever required. It may here be observed, that models are seldom placed properly, the consequence of which is, that we generally look down upon them as in a bird's-eye view, whereby much of their proper effect is quite lost. This defect might be remedied, and the advantage of being able to inspect the roof still secured, were the stands upon which models are placed so constructed as to allow them to be raised or lowered at pleasure, by means of a screw and winch handle.

Another circumstance which renders it prudent not to trust too implicitly to models is, that they do not express colour, particularly if executed in plaster. They flatter the eye by that brilliancy of decided and uniform white, which not even a newly erected stone building possesses; consequently they rather show a degree of beauty which is desirable, than one which is attainable; that is, what persons in general would consider to be such, although, in a painter's estimation, it would more frequently than not be considered a defect. Hence a model is apt very frequently to mislead the judgment; and, more especially, to impose upon those who, delighted with it as a miniature resemblance, think that, because the model looks "very pretty," the building must of course look very beautiful. Unless the windows are real apertures, it is advisable that they should be coloured of a tolerably dark hue, since, if that be not done, they will have the effect of blank windows, thereby occasioning an appearance of breadth and repose which the real structure cannot possess.

In spite of these drawbacks, which, by being known and kept in mind, are reduced to very trifling ones, models recommend themselves by decided advantages of their own, since they enable us to study every imaginable effect of light and shade, and of perspective. Besides which, a well-executed model is in itself a highly pleasing and ornamental work of art.* All this, however, is to be understood with some qualification; for, if a design consists only of flat elevations †, with no variety of outline, and no projecting part to fling shadows on others, the model would show little more than might be seen by geometrical drawings of all its fronts, and would be of little further service than that of exhibiting the form of the roof. In such cases, therefore, very cheap and expeditiously made models might be prepared, by drawing all the separate elevations, and pasting them on a hollow frame or box, and afterwards putting on a roof of pasteboard. The chief difficulty would be the cornices, for the projection of the other mouldings would not require to be noticed; yet these might be separately formed in wood or plaster, and then glued on and coloured like the rest. Should there be occasion to show breaks in any of the elevations, the block must be shaped accordingly, and the divisions of the elevation pasted on separately: in fact, even entire columns and entablatures in relief might be added, after as much had been done as conveniently could be by mere surfaces; yet this would hardly be worth while, for the time and cost bestowed upon it would almost equal that required for a perfectly executed model; whereas the facility of preparing them would be the chief recommendation of such sketch or block models.

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* Mr. Dighton's models, which are of a very superior description, are constructed differently from most others, for they may be said to be actually built up; and they exhibit the most elaborate and intricate detail finished up in the most perfect manner. That of Cossey Hall (see Vol. I. p. 183.) is a exceedingly interesting specimen of his ability. Were a series of such models, exhibiting some of our finest works of architecture, and all executed upon the same scale, made the nucleus of a National Architectural Museum, there can be no doubt of its leading to improvement in the public taste. One thing very much in favour of Mr. Dighton's models is, that they are less liable to injury, and, if accidently damaged are more easily repaired than plaster ones.

† On the other hand, a partial, or elevation, model may be exceedingly useful for fully comprehending the complete effect of a single front, should that happen to consist of various planes. Should there, for example, be a portico

Having spoken of models, let us now consider the exclusive advantages possessed by geometrical drawings. Some more than ordinary recommendation they certainly ought to possess; for they find so very little favour in the eyes of most persons, that they will hardly condescend to bestow the slightest attention upon them, unless it be for the showiness and beauty of their execution. It is to be hoped that the *Architectural Magazine* has done something towards removing a most extravagant prejudice against the ground plans of buildings, namely, that, if there be any interest at all in such drawings, the things are quite incomprehensible; whereas, so far from there being any mystery in them, a child of common capacity would be able to understand them, if properly, and of course patiently, explained to him. Perhaps there is quite as much affectation or obstinacy in the case as any thing else; for it will generally be found that the persons who pretend they can make nothing out of a plan, possess, like M. Jourdain in the *Bourgeois Gentilhomme*, a talent

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within an inner range of columns, those columns, if in the sames axes as the others, would be entirely concealed by the ones in front of them; so that, although shown in the plan, no idea would be conveyed of their effect: nor could this latter be adequately manifested even by a perspective drawing, let the station of view be ever so judiciously chosen; for it would be almost impossible to exhibit those columns clearly without concealing every thing beyond them: and, after all, the principal effect would not be represented, since that would depend, not upon any single point of sight, but on the successive changes which would occur according as the spectator shifted his situation. It must be confessed, that our architects take care not to have occasion for showing any thing of the kind, and — so much the worse.

quite unknown to themselves. If they can make out the meaning of a map, they understand what might reasonably be imagined by far the more unintelligible species of plan, because such geographical plans less clearly denote what is intended to be expressed by them than architectural maps do. Or how happens it, that the same unfortunate persons, who are bewildered at the sight of the ground plan of a house, are nevertheless gifted with such sagacity, that they are not at all puzzled by the plan of a city. Enlightened, perhaps, by some preternatural means, rather than informed by any natural exertion of intellect, they know, almost without having ever had occasion to be told it, that the dark parts indicate houses and other buildings, at least the ground upon which they stand. Yet show them the map of a house; inform them that the shaded parts indicate the walls, and show their thickness, while the blanks, interrupting the course of such lines or shadings, represent the doors and windows, and ten to one but they stare you very innocently in the face, and tell you they see nothing whatever like walls, doors, and windows; and, after having occasioned you to swear sundry mental oaths at their stupidity, finish by exclaiming, " Well, it may be so, but I positively cannot see what it means; — never beheld such odd-shaped doors and windows in all my life."

Were I to protest that there is not the slightest colouring of caricature in the above, I might not be exactly believed; still there is so very slight a tinge of it, that the matter is hardly exaggerated at all; for, if you can get on so far as to make persons at length understand those particulars, there are a hundred others which you fruitlessly endeavour to explain to them. They will tell you, for instance, that what you call stairs, are " all flat," and lying on the ground; and, when informed that the dotted lines are intended to show the projection of cornices, and the compartments of the ceilings, ask how it is possible that the ceiling can be upon the floor.

These remarks, it must be owned, appear to have very little to do with the subject itself; nevertheless, they may possibly be of as much actual service as all the rest of my article put together, by leading persons to consider whether it would not be proper that children should be taught to understand the nature of architectural plans, as well as of other plans or maps. But to resume what I have thus interrupted by a long *par parenthèse:* a plan may be defined to be a horizontal section of a building, or of any particular floor of it; and it is highly desirable that it should be made to show whatever can be expressed in it, without crowding it so much as to be confused. In this respect, many of the plans given in architectural works, the older ones more especially, are sadly deficient; and this is most felt in the case where they are not accompanied by sections. The projection of cornices, the compartments of ceilings, the groinings of vaulted roofs, domes, skylights, &c., should all be transferred to the plan, and indicated on it by fine dotted lines; also the shelving in libraries, and the windows, if at a considerable height above the floor; in both these instances the parts being slightly shaded, otherwise, in the one case, the windows would appear to be at the usual height, and, in the other, the lines intended to show the projection of the shelving from the face of the wall would not clearly define the actual area of the floor. Should parts of the same plan or floor happen to be on different levels, they should be distinguished, as they easily may be in drawings, by making the whole lower part of a rather darker tint, in proportion as the difference is greater or less. When this is not attended to, it sometimes becomes impossible to feel quite certain as to the plan, for we may mistake the descent of steps for an ascent, or *vice versâ*. At any rate, the mode above recommended has many advantages on its side, because it clearly indicates the circumstance at the first glance, keeps it in mind, and shows the exact extent of each level. Supposing the plan to be that of a theatre, there may be three, four, or even a still greater number of planes in the same drawing; and, although this should be sufficiently understood when examined, it is as well to render it apparent to the eye at first sight.

Differences of height ought also to be expressed, as well as those of level, whether they occur in separate rooms, or in the separate divisions of the same room, because such difference is one great source of variety and contrast, and much of the effect and character of the apartments will depend more or less upon this circumstance; consequently it is one which should not be suffered to escape notice in the plan. Where all the rooms upon a floor are precisely alike as to height, it will be sufficient to state once for all what that measurement is; if not, the respective altitudes should be denoted by figures, and a small *h* placed before or after them. Besides doing this, the same mode may be had recourse to for rendering apparent the greater loftiness of some rooms than others, as that which has been pointed out for distinguishing such parts of a plan as lie on planes of different levels; that is, provided it be not required at the same time for the latter purpose.

Whenever it happens that the upper floor does not extend over the whole of a lower one, this circumstance also should be noted, by making those walls which are carried up higher than the others of a darker tint than the latter; while the plan of the upper floor should be made to show, not only all the projecting parts of the under one, but their roofs, lead-flats, skylights, chimneys, &c.

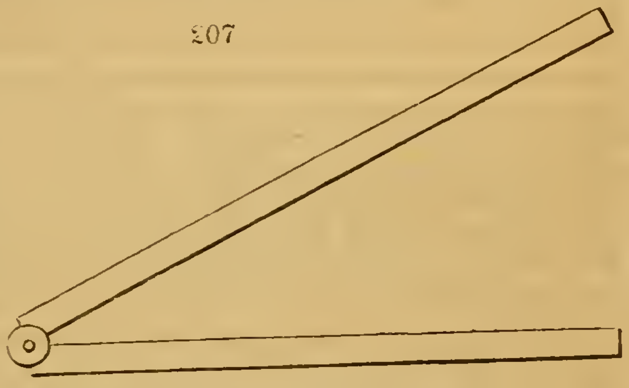
It seldom happens, however, that plans, not intended for working drawings, are so well filled up as they ought to be. Those in books have, for the most part, very few details inserted in them, and are sometimes very ill defined, nothing further being represented than the walls and their apertures; hence they have a blank naked appearance, and do not afford half the information that might be conveyed by drawings of this class. Neither is every part that is shown always so distinctly represented as is desirable; in many Italian collections of designs, for instance, the windows might be taken for mere recesses, owing to the solid part below the window, and not the window itself, being shown in the plan, and no distinction made between such parts of the walls and those where no aperture occurs; so that, were the same mode adhered to where the window recesses do not descend to the floor, the room would appear to have no windows at all, none being described in the plan. Some distinction should, perhaps, be made between windows which actually reach down to the floor, and those which are raised so far above it as to leave a parapet beneath them. Accordingly, these latter should be faintly tinted (in engravings as well as drawings), and windows raised so far above the floor that a person cannot look out of them ought to be shaded several degrees darker. The same ought to be done in regard to small closets; for if a closet be merely in a recess in a wall, shut up with a door, it will not explain itself so well as it ought to do, but convey the idea of there being a recess open to the room; but, of course, the tint employed for this purpose should be still fainter than that made use of to show any window or opening in the upper part of a wall; nor should it be at all deeper than is requisite to define that such recess is not included within the actual limits of the room.

Sometimes it might be useful to have flap plans, showing, as in a kind of model, all the floors of the building in their respective situations. The plan of each floor being drawn on Bristol board, and neatly cut out; upon another piece of the same material, an orthography of one of the external walls, which may be either an inner or outer elevation, is drawn; and to this the several flaps or plans are to be affixed, according to the respective floor lines or heights, by means of narrow strips of linen, which will serve as a hinge, and allow the flaps to fold freely; so that the whole model, if it may so be termed, will lie perfectly flat, and may be kept in a portfolio. Or else, two or more projecting tongues may be left in cutting out each plan, and corresponding slits be made to receive them in the upright part, so that all the pieces would be separate, and lie flat one upon another, and could be put together when required. Should this latter mode be preferred, there might then be two uprights or external walls, into both of which the floors would be inserted; and thus the whole might be rendered capable of standing firmly, without being supported by the hand while examined. Such flap models would be of limited application, because they would be suited only to rectangular plans; and, even in these, difficulties would frequently occur that would require some management.

(*To be continued.*)

Art. IV. *On the Use of the Perspective Delineator by Architectural Draftsmen.* By Mr. Charles James Richardson, Architect.

I take the liberty of requesting your attention to a very ingenious and useful instrument, lately invented, called the Perspective Delineator. (*fig.* 207.) It is the most simpe and complete of any yet offered to the public, and certainly the cheapest, as the cost is only one shilling. It provides a ready and universal method of putting alike the most complicated or the most simple design into perspective; and for octangular, circular, or irregular designs of any kind, it is invaluable.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It does away with the necessity of vanishing points, and of all lines, except those of elevation; consequently, in large views, where the vanishing points are at an inconvenient distance from the drawing-board, the principal points obtained by this instrument would save an immense deal of trouble. For the architect, therefore, as well as for the young student who has no idea of drawing perspective, this instrument is alike useful.

Mr. Shires, the inventor of it (15. Little Chapel Street, Soho), is the professor of mathematics, and tutor to the Western Institution, Leicester Square; and he teaches the use of the perspective delineator, in one lesson, the expense of which is three shillings, with an instrument included.

The method of using it is as follows. Let *p* (*fig.* 208.) be any point, the perspective of which is required; draw *a b*, to signify the edge of the picture; parallel to which draw the ground line *i h*; *r* is the edge of the drawing-board. Make choice of any station, say *c*, and there fix the centre of the movable angle *p c h*; now place *c p*, and also the T-square *p l*, both on the point *p*, and open the angular part *c h*, until the line *i h* comes into the

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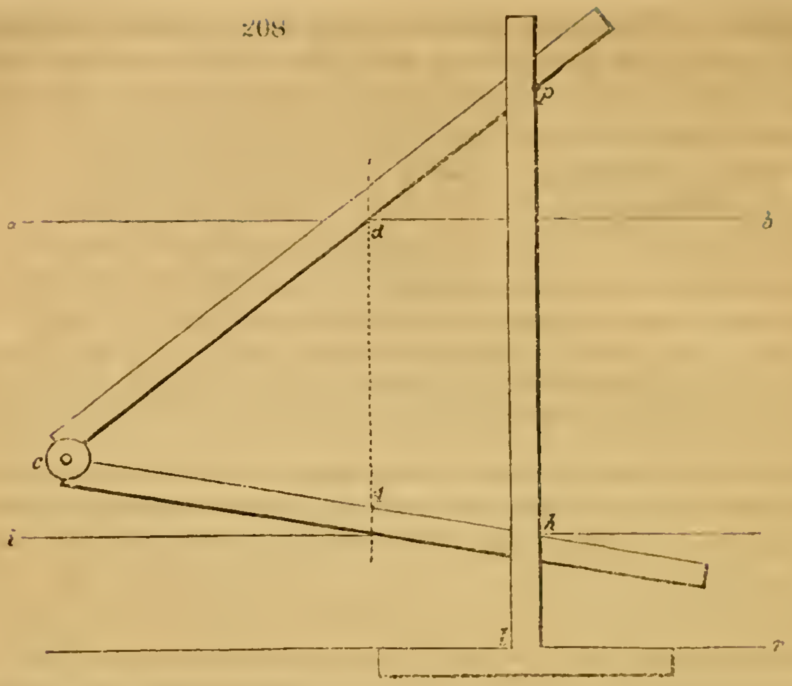

angle *h*; this done, slide the T-square *l p* to the position *d q*, so that the line *a b* shall come into the angle *d*; then the point *q* so found [is the perspective of *p*; and in the same manner all other points may be found, which being joined with lines, will give the perspective of any figure or solid, let its form be what it may.

The heights are obtained without sections, in equally as simple and as efficacious a manner; but, in justice to Mr. Shires, I must here close the description of his useful contrivance, and refer to him for the purpose of any further explanation.

24. *Manchester Street, Manchester Square, July* 17. 1835.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Ventilation. — The following extract is from a work which ought to be in the hands of every individual, but more especially in those of every architect, Combe's *Principles of Physiology applied to the Preservation of Health*, 3d edition. "One of the evils of ignorance is, that we often sin and suffer the punishment, without being aware that we are sinning, and that it is in our power to escape the suffering by avoiding the sin. For many generations, mankind have experienced the evil results of deficient ventilation, especially in towns, and suffered the penalty of delicate health, headachs, fevers, consumptions, cutaneous and nervous diseases; and yet, from ignorance of the true nature and importance of the function of respiration and of the great consumption of air in its performance, architects have gone on planning and constructing edifices and houses, without bestowing a thought on the means of supplying them with fresh air, although animal life cannot be carried on without it; and, while ingenuity and science have been taxed to the utter-most to secure a proper supply of water, the pure air, though its admission is far more essential, has been left to steal in, like a thief in the night, through any hole it can find open. In constructing hospitals, indeed, ventilation has been thought of, because a notion is prevalent that the sick require fresh air, and cannot recover without it; but it seems not to have been perceived, that what is indispensable for the recovery of the sick, may be not less advantageous in preserving from sickness those who are well. Were a general knowledge of the structure of man to constitute a regular part of a liberal education, such inconsistencies as this would soon disappear, and the scientific architect would speedily devise the best means for supplying our houses with pure air, as he has already supplied them with pure water." (p. 236.)

The time, we are inclined to think, is not far distant, when the heating of all large towns will be reduced to the same degree of simplicity as now exists in the mode of lighting them, and of supplying them with water. In another half century, the only coal fires in London will probably be those of the gas works, of the steam-engines, and of the manufactories. There is nothing to hinder all private houses from being heated, as well as lighted, by gas; and from having all the cooking of every description, boiling water for washing, heating baths, smoothing-irons, &c., performed by that fluid. This state of things, arrive when it may, will occasion a revolution in house-building, and especially in the modes in which apartments are heated and ventilated. It will also do away with the necessity for huge piles of chimney tops; or, at all events, for the different unsightly contrivances which now generally disfigure them. Few modern practices in building are more absurd than that of making the doors and windows of rooms air-tight, and yet expecting that there can be a sufficient draught in the chimneys to prevent them from smoking. There ought to be a contrivance in the upper part of every door and window for admitting air, merely for the sake of supplying the chimney. In the case of doors, instead of having them to fit exactly at the top, we would leave from a fourth to half an inch, according to the size of the room; and, in the case of windows, we would leave that space in all those that fronted the points from which the wind was mildest, and half as much in the case of windows facing the north. The advantage of admitting the fresh air at the upper part of the room is, that it comes immediately in contact with the hottest air of the room, and is thus rendered temperate before it reaches persons seated in the middle of the room, or near the fireplace; whereas, when the air is admitted or drawn in by the bottom or lower parts of doors or windows, it slides along the floor towards the fireplace to supply the draught, at once cooling the feet of every one in the room, and leaving the great body of the air of the apartment entirely unchanged. It thus frequently happens that a person is seated in a room in which there is a brisk fire, with his feet and legs in an atmosphere of 40°, of air continually changing, and consequently carrying off heat from him; and his head in an atmosphere of a temperature of 60°, which, unless the door of the room is frequently opened and shut, or the breast of the chimney is higher than usual, is never changed at all, and, consequently, is breathed and rebreathed by the occupants. We have often been perfectly astonished at the ignorance of professional men on the subject of ventilation, and equally so sometimes at their speculative impracticable notions; such as ventilating by small tubes, &c. The only practicable mode of judiciously ventilating apartments in modern houses, without radical changes in construction, we venture to state is that above suggested: but even that simple mode will not be adopted till the occupiers of houses are aware of the importance of ventilation. One piece of advice we would wish to impress upon every reader; viz. never to take a lodging, or rent a house, in which the windows are not carried up as high as the cornice of the room. Unless this be the case, the ventilation, even by the mode we have suggested, must necessarily be imperfect; because the stratum of air between the top of the window and the ceiling will remain unchanged, and of no sort of use to the occupants of the room. Many hundreds of houses about London, which have a splendid appearance exteriorly, have this defect within. It will be found in the bed-room floors of most of the houses round the Regent's Park, and, indeed, more or less, in almost all the new houses everywhere, that have any pretensions to exterior architecture, and especially to a frieze and cornice. As these houses are generally built on speculation, by persons whose great object is to get them sold as soon as possible, this utter neglect of the health of the occupant is not to be wondered at, more especially as the occupant is generally too ignorant to detect the evil; but what excuse shall we find for architects who commit the same fault in the country houses of wealthy noblemen? We could refer to many new country houses where this is the case: we have in our mind's eye the state bed-room of a noble marquess lately married, in which the space above the windows is upwards of 10 ft., and, the whole height of the room being 20 feet, it follows that exactly one half of the atmosphere of the room is rendered useless. The misery and suffering in cases of this kind, however, is nothing to that which must be endured by those who have no other room to live in but one, and that one perhaps not above seven or eight feet high. It is lamentable to think that this misery must be endured by the passing generation, and even by that which is rising to succeed it, till, as Dr. Combe observes, a general knowledge of the structure of man enters into a system of general education. There is no better substitute for this defect in our education, that we know of, than Dr. Combe's most excellent work. — *Cond.*

The Nuisance of Smoke in Towns. — Mr. Jopling, the architect, in a late tour through the manufacturing districts, was so much annoyed with the "horrible nuisance" of smoke, that he suggests the idea of getting rid of it by pumping it out of the furnace into a drain or sewer, "where the soot and the smoke may be separated from the air and mixed with water, and thus converted into manure." The idea is good, and may one day be turned to account, when all the coal brought to our large towns shall be employed in making gas. In the meantime, as a speculation toward an improvement in large towns, we would suggest the idea of having a tunnel or drain along the tops of street houses into which all the flues might be conducted. The air in this drain might be rarefied by a fire at one extremity, and this extremity might either be on a level with the rest of the drain, and simply allow the smoke to escape into one very high shaft; or it might escape into a system of flues passing over water, by which means the greater part of the earthy particles would be deposited, and what passed into the atmosphere would be an invisible fluid. It must be recollected that, in the passage of the smoke along the horizontal flue, a great proportion of the earthy particles would be deposited, and that, by cleaning this main flue or tunnel frequently, a considerable quantity of soot would be obtained for manure or other purposes. This idea is capable of being turned to a practical account, but we do not think it worth while; firmly persuaded as we are, that, at no distant period, gas companies will supply heat as well as light, at least for all dwelling-houses. — *Cond.*

Art. II. *Foreign Notices.*

GERMANY.

Chevalier Baader, well known for his efforts for the improvement of railroads, has produced a little work *On the Impossibility of employing Steam Carriages on ordinary Roads with Advantage, as a general Means of Conveyance; and on the Absurdity of all the Plans for dispensing with Railroads by means of them.* (*Foreign Quarterly Review*, vol. xv. No. xxx. p. 486., June, 1835.)

The Bavarian architect M. L. von Kleuze has just published a highly interesting work under the following title: "*Anweisung zur Architektur des Christlichen Cultus*" (Advice respecting the Architecture of Christian Worship), with thirty-nine copperplates, in folio. (*Foreign Quarterly Review*, vol. xv. No. xxx. p. 487., June, 1835.)

The Chevalier Wiebeking, well known by his important publications on *Hydraulic Architecture*, the *History of Civil Architecture*, &c., has commenced a work, in two quarto volumes, relative to what is most curious and useful in *Hydraulic Architecture*, with thirty-six large topographic-hydrographic charts, and seventeen copperplates. The first volume will be published in the course of the present year. (*Foreign Quarterly Review*, vol. xv. No. xxx. p. 487., June, 1835.)

Disinfection, &c. — A most valuable discovery has been made at Breslau, in Silesia; namely, that by pouring boiling water into the vaults of privies, and other similar receptacles, they may become disinfected, and may be safely entered by the workmen employed to clear or repair them. (*The Bury and Norwich Post and East Anglian*, Jan. 7. 1835.)

NAPLES.

At Palermo there has appeared the second volume of a new work, entitled "*Le Antichità della Sicilia esposte ed illustrate per Domen. Le Paso Pietrasanta Duca de Serradifalco*," with thirty-seven engravings on copper and lithographs. A curious circumstance attending this splendid work is, that the second volume has been published before the first. It embraces the ruins of the ancient Selinus: the first will comprise the grottoes of Segeste. (*Foreign Quarterly Review*, vol. xv. No. xxx. p. 488., June, 1835.)

RUSSIA.

Alexander's Monument at St. Petersburg. — The height to the top of the cross is 154 ft., and the whole shaft of the column, *formed of one stone*, 84 ft. The heights of the other most celebrated pillars, composed of a single stone, are, those in front of the Pantheon at Rome, 46 English feet; one at Isaac's Church at Petersburg, 56; Cleopatra's Needle, 63; the obelisk at St. Peter's, Rome 78; the obelisk at Munich, erected last year, by command of the king, 100 Bavarian feet. (*Derbyshire Courier*, Jan. 10.)

TURKEY.

A young architect, M. Texier, after finishing his studies in Italy, has been sent by the French government to Constantinople, on his road to Asia Minor, to examine the antique monuments of that little explored country. He has lately written from Phrygia, and communicated an interesting account of the town of Azan; of the antique monuments of which we have hitherto had neither description nor drawing. He has discovered there a magnificent temple surrounded by an Ionic colonnade, which, he says, surpasses every thing of the kind that either Greece or Italy can boast, in regard to purity of style and preservation. Upon the outer walls there are still eight Greek and Latin inscriptions relating to Panhellenic festivals and magisterial ordinances. Almost all the other buildings of this ancient town are still extant; marble bridges and sepulchral monuments, quays, the theatre, and circus. The theatre is in the highest state of preservation. The stage is yet entire; but the Ionic columns have been overthrown by an earthquake, and the orchestra is covered with rubbish. In the proscenium is a frieze with relievos, representing hunting scenes: among the animals may be distinguished the zebu, or humped ox (an animal now found nowhere but in India), torn by a lion; stags and boars caught by dogs, horse races, &c. The doors are still standing, with all their decorations. Opposite to the theatre is the circus, built of white marble. Near the temple is seen a large portico, probably the gymnasium, with columns of the Grecian Doric order. Amidst these remains are scattered the houses of a small village. M. Texier has caused several excavations to be made, and taken admeasurements and drawings of the buildings. (*Foreign Quarterly Review*, vol. xv. No. xxx. p. 490., June, 1835.)

NORTH AMERICA.

An Artificial Stone. — A composition has been discovered by Mr. Parker of Syracuse, United States, which will harden like stone, and yet may be worked, in a soft state, as easily as mortar. It may be cast in moulds, and is not dearer than brick. (*Printing Machine*, vol. iii. p. 159.)

Art. III. *Domestic Notices.*

ENGLAND.

The New Parliamentary Buildings. — A plan of the parliamentary and other public buildings adjacent to Westminster Hall, from a survey made with the intention of supplying the necessary information to architects, has been prepared and published by Mr. C. J. Richardson, architect. It is a most elaborate, and apparently accurate, performance, to a scale of 20 ft. to an inch. It is a work of immense labour, and will be of the greatest value to architects. The plan is in two sheets of paper, and is upwards of 4 ft. 3 in. long by 2 ft. 9 in. wide. It is sold at the very moderate price of one guinea, which surely can never repay Mr. Richardson for the time which he must have bestowed on it. We strongly recommend it to all architects who are interested in the subject; and it has this recommendation to general readers, that every part of it is described by writing on the part, and not by letters or figures of reference to a separate description. The eye, by this means, examines every part with nearly the same advantages that we should walk through the different houses. For example, in the case of any particular apartment, we are told not only what it is, but what apartments are under, and what over it, &c.

The Paper of Queries by the Institute (mentioned p. 310.) has appeared in an 8vo pamphlet of 28 pages, which is given away by the secretary. It embraces numerous questions on buildings, houses, staircases, ice-wells, prisons, workhouses, and hospitals; sewers, bridges, suspension bridges, chain piers, bricks and tiles, stones, including marbles, slates, &c. &c., in buildings generally; stone, when in the quarry; mortar, timber, iron, construction in general, scaffolding and machines, ventilation and heating, acoustics, light; on failures and their remedies, specifications and contracts, antiquities, Indian and Hindoo architecture and antiquities, the literature of architecture, biography, history, and education.

It may be noticed as somewhat singular, that the foregoing questions relate more to building than to architecture; and that not one of them relates to the fundamental principles of architecture as a fine art. If the architects are unwilling to admit builders among them, they are determined not to be ignorant of the art of these men, which is so far satisfactory. If the builders and surveyors set up a society of their own, which we have heard they intend to do, notwithstanding the existence already of one, if not two, architectural societies, besides the Institute, they will probably, in the way of retaliation, enquire into the principles of architecture. All this enquiry, by agitating the subjects of architecture and building, will direct both the public and professional men to them, and in that way is certain to do good. For this reason we approve of all societies for the encouragement of the arts, and shall support them as far as we can, even though we do not entirely agree with their professed objects. — *Cond.*

The Archæological and Topographical Institution of Great Britain, for promoting Systematic Histories and Illustrations of its numerous Antiquities. — The objects of the Society proposed to be established with the above title are, to investigate, describe, and illustrate the antiquities of the various counties of England, Wales, and Scotland: the results to be arranged and classed in chronological order, under the following heads: — 1. Celtic or British Antiquities; 2. Roman Roads, Stations, Encampments, and other Remains;

3. Saxon, Danish, and Norman Antiquities; 4. Castles, Monastic and Ecclesiastical Buildings, &c.; 5. Old Mansions, Crosses, Bridges, &c.

Cooperation is a distinguishing feature of the present times, and is in many cases essentially required to give effect to plans which are most conducive to the welfare of mankind. Societies and Institutions are of this number; and whilst those devoted to the respective sciences of geology, geography, zoology, and astronomy, are at once popular, and highly useful, it is conceived that another institution, expressly applied to archæology, will be gratifying to the numerous antiquaries of this country; and may be established on such a basis, and under such regulations, as to become eminently interesting, and productive of important results. On the accession of thirty persons, a meeting will be convened to organise the Society, by the election of a president, four vice-presidents, a treasurer, two secretaries, and a council, to whom it is proposed to intrust the formation of a code of laws, &c.: those of the Royal Astronomical Society being referred to as a basis. J. Britton and Edw. Wedlake Brayley have offered to act as honorary secretaries, till the Society be regularly formed: to whom communications are to be addressed, or to Messrs. J. B. and J. G. Nichols, Parliament Street, London.

The Warwick Vase in the Pantheon Bazaar. — I have been much gratified, on visiting the Pantheon Bazaar, in Oxford Street, by the sight of that splendid monument of art; namely, the bronze cast from the justly and highly celebrated antique marble vase belonging to the Earl of Warwick, and now at Warwick Castle. This cast is, I understand, made from a mould which was the only one allowed by the noble owner to be taken from the splendid original, and, therefore, is rendered doubly valuable and interesting, from its being a perfect duplicate; more especially as I understand there is only one other, and which is in the possession of His Majesty, at Windsor Castle. As a work of art, it is certainly unrivalled; and, when we state that the body is cast in one piece, it will be allowed that, as a specimen of casting, it is unequalled in this country. I cannot but feel surprised that this vase is not now in the possession of some one of our noble patrons of art, more especially when I look at the nature of the material of which it is composed, so admirably adapted to our climate, that, unlike marble or other material, it would not injure by exposure to the atmosphere even of London. I was the more astonished when I heard that the price asked for it does not exceed 1500 guineas; not more, I should conceive, than the value of the metal itself. What a splendid ornament this vase would be, placed in the garden fronting the magnificent house of the Duke of Sutherland, in St. James's Park; or facing that of the Marquess of Westminster in Park Lane! Should it be intended to carry into execution the proposed fountain in the open square facing the new National Gallery at Charing Cross, I do not think a more suitable decoration could be found for it than this vase. — *G. London, August*, 1835.

Fine Arts among the Manufacturing Population. —The House of Commons, on the motion of Mr. Ewart, has appointed a select committee to enquire into the best means of extending a knowledge of the arts, and other principles of design, among the people (especially among the manufacturing population) of the country; and also to enquire into the constitution of the Royal Academy, and the effects produced by it. (*London Literary Gazette*, July 18. 1835.)

Islington New Church. — In the vicinity of Colebrook Row, a new church is being erected from the designs and under the superintendence of Mr. Barry, in the pointed style of architecture; it has a pitched roof, with a square buttress tower at each corner of the building, terminating with octagonal pinnacles; and on each side between the windows are graduated buttresses in two divisions, terminating pyramidally: it is already covered in, and is expected to be finished in the course of a few months, at the cost of 3000*l.* — *Tyro. Wilmington Square, June* 4. 1835.

Alms Houses for the Company of Tilers and Bricklayers, from the designs and under the superintendence of Mr. William Grellier, are being erected upon a field between Kingsland and Ball's Pond: they are in the Elizabethan style of architecture, and, when finished, will have a very picturesque appearance. — *Tyro.* *Wilmington Square, July* 2. 1835.

A New School for the Indigent Blind is now in progress; the foundation stone was laid on April 25. last year, with much ceremony, by the Archbishop of Canterbury, the president. This school is on the same site as the old one only occupying a much larger space of ground, extending towards St. George's Fields: it is in the Elizabethan style of architecture, from a design by John Newman, Esq., F.S.A. (a lithograph of which may be purchased at the school, and which was noticed Vol. I. p. 180.). The benefits that will be derived from the rebuilding of this excellent institution will be very great; the old building could only receive 112 persons; namely, fifty-five males and fifty-seven females; while the new building is arranged to receive 220 persons. — *Id.*

The New Houses of Parliament. — A professional correspondent of the *Morning Chronicle* suggests that it would be far more satisfactory to the competitors and the public, and give a greater assurance of perfect fairness and impartiality, if the commissioners who are to decide upon the plans were not appointed till after the plans were sent in. Another correspondent proposes that all the designs sent in should be exhibited to the public at the Royal Academy. — *Id.*

An Essay on Concrete. — An honorary premium will be presented by the president and members of the Institute of British Architects for the best "Essay on the Nature and Properties of the Mode of Construction technically termed Concrete, and of its application to Buildings, &c., in Great Britain, up to this period." The essay to be sent to one of the secretaries on or before the first of December next. The council reserve to themselves the right of withholding the premium, if they do not consider the papers sent to be of sufficient merit. — *Id.*

A new Theatre, from the designs and under the superintendence of Mr. Beazley of Soho Square, and nearly on the same plan as the new English Opera House, is in progress in Norton Folgate. It will be arranged to hold 1100 persons, and is expected to be opened in October next, under the denomination of the City National Theatre. — *Id.*

St. Bartholomew's Hospital. — This excellent establishment is undergoing great improvement. The museum is being enlarged: the preparations, &c., have been removed for the purpose. The dissection rooms are being painted and the ceilings whitewashed. A new theatre for the delivery of lectures on materia medica, and a reading-room, are also in contemplation of being erected. — *Id.*

St. Sepulchre's Church. — This church (the venerable steeple was uninjured by the great conflagration in 1666) has been undergoing a thorough repair, and is expected to be opened for divine service in the course of a few weeks, having been closed for a length of time. The sum of money the repairing of this church will cost the parish is enormous; the builders having had no architect to superintend, or any contract to restrain them, the latter having been broken a few days after the commencement of the repairs, from their forgetting to include the reparation of the steeple in the same. Prior to the repairs, the galleries were very dark, and, with the exception of those seated in front, the clergyman could scarcely be seen: this has been remedied by putting a new roof to the church, at the same time removing the beams that went from column to column, and springing arches in their stead. The light used to be conveyed by means of side windows in the roof, but is now by a series of skylights in the centre of the ceiling, which have a very pretty appearance. The church has also been painted inside and outside. — *Id.*

The Levelling of Holborn Hill has been again taken into consideration at a special meeting of the Farringdon Street Improvement Committee; when Messrs. Burnard and Geary, architects, submitted a model with plans, &c., which were highly approved of. The corporation have promised every aid. This is one of those improvements which command the first attention, on the ground of humanity alone, and ought to have been carried into effect years ago. — *Id.*

A new Chapel is about to be erected in Vincent Square, Westminster, from the designs of Mr. Blore. — *W. London, Aug.* 29. 1835.

Herefordshire. — *Hereford, Aug.* 3. 1835. — I have just returned from Foxley, and been much delighted with the woods; but I cannot say that I admire either the house or the very picturesque scenery amidst which it is situated. The transition from art to nature is too sudden: a house ought not to rise up among vegetation, like a tree among copsewood; but more like a tree on an open lawn, from a protuberance of earth. . . . . The unsightly school, that so long disfigured the Hereford Cathedral, has been removed; and the cloisters, which were blocked up by it, are now exposed to view, and, I trust, will be repaired, though not beautified. Here, as elsewhere, Mr. Buckingham's bill has made a sensation; and it will not be the fault of a certain nurseryman, a friend of yours, if there are not, in due time, a handsome public garden, and a public library, museum, and lecture-room. — *J. W. T.*

Lancashire. — *Liverpool Mechanics' Institute.* (see p. 317.) — The following description of the new building for the purpose of this excellent Institution, the first stone of which was laid on July 20., by Lord Brougham, may be interesting to our readers: — The site on the south side of Mount Street, and inclusive of the court-yards attached to the building, will occupy a space of about 87 yards front, by 43 yards in depth; the main building will be about 42 yards square. The principal front, to Mount Street, is intended to be faced with stone, and will consist of a central Ionic portico with wings in antis. One range of windows only is to be introduced, the space above being sunk in panels to be filled up with bas-reliefs, to be executed by the pupils and members of the Institution. The portico is also intended eventually to be crowned with a group of statuary. The main entrance under the portico will open into a vestibule, or loggia, 10 yards by 7; passing from which, through a screen formed by two columns and two pilasters, you will enter a corridor 20 yards by 4, with a staircase at each end leading to the gallery of the lecture-room and the upper portion of the building. The centre door of the lecture-room will open from this corridor, flanked by a niche at each side to contain busts or statuary; passages will also diverge right and left, giving access to the class-rooms, &c. The lecture-room will be of the horse-shoe form, or a semicircle with the tangents prolonged, 60 ft. in length by 52 ft. wide, and will accommodate about 1200 persons. Besides the lecture-room, the principal story will contain a library, a reading-room, committee-room, chemical class-room, laboratory, lecturer's private room, apparatus-room (the three last immediately communicating with the lecture-room), a class-room 17 yards by 9, one ditto 12 yards by 10, one ditto 9 yards by 8½, keeper's room, with a strong room for documents and records, and a comfortable house for the keeper separate from the rest of the building. There will be side doors to the lecture-rooms communicating with the side entrances of the building; so that when all the doors are thrown open, the lecture-room, however crowded, may be cleared in a few minutes. The staircases are to be so arranged that, if the lecture-room should ever be used separately for the purpose of public meetings, &c., the communication can at once be cut off from the other part of the building. The upper story will contain a corridor, with niches, similar in extent to the one below; a museum and model-room 20 yards by 7 yards, and a music-room 17 yards by 9 yards, with seven large class-rooms. The basement floor will contain various workshops and rooms for modelling, apparatus for heating and ventilating, &c. There will also be various closets and minor conveniences, and, though last, not least, a copious supply of water on the premises in case of fire. A considerable sum still remains to be obtained, to warrant the committee in proceeding with vigour towards the completion of their undertaking, but they appeal with the utmost confidence to those of their townsmen who are desirous of raising up a moral, virtuous, and happy people, for their liberal support to an institution which is emphatically "the friend of all, and the enemy of none." (*Liverpool Mercury*, July 24.) We understand that our correspondent, Mr. Picton, has undertaken to give a series of lectures on architecture in this Institution; and we have no doubt he will fulfil the task well. When he has completed the course, and has a little leisure, we should be glad of plans, sections, and descriptive particulars of this Mechanics' Institute, which, when executed, we imagine, will be one of the most complete in the country. — *Cond.*

Worcestershire. — Worcester, July 27. — Our Natural History Museum, and our County Court, proceed rapidly; and next week the foundation of a new church is to be laid in the Blockhouse. It is also in contemplation to agitate the idea of forming a general cemetery on the outskirts of the town, and doing away with all interments within its precincts. Cemeteries appear to be becoming general in the case of large towns; probably owing to the danger to the living from the continual disturbance of the ground in churchyards; a disturbance which increases every where with the increasing population, while the size of the churchyards remains stationary. The practice of burying in the natural soil among trees, rather than in stone tombs, and in vaults in churches, also seems to be on the increase; and, surely, this is not only calculated to render the air of churches purer, but also that of burial-grounds. To me, the idea of being put in a tomb, or locked up in a vault, and of becoming a mass offensive to organised beings, is far more disagreeable than that of being committed at once to the naked soil. I should prefer being placed there, even without a coffin: but I suppose I must not say this in the presence of carpenters and architects. I shall write you, in a few days, from Hereford. — *J. W. T.*

ART. IV. *Retrospective Criticism.*

W. H. B. and Scrutator.[*] (Vol. I. p. 225. and Vol. II. p. 402.) — Had I been aware that Verus intended to continue his animadversions upon my censure of Forsyth and Palladio, I should have waited for their conclusion before I began to reply to him; but now, as he has not thought fit to take any notice of what I said in that Number of the Magazine in which his second article on the subject appeared, it is hardly worth while to resume it afresh, when he, it seems, would rather let it drop. I therefore turn elsewhere; and, first of all, call upon W. H. B. to explain a little what he means by the "inventive genius" of Inigo Jones. Perfectly well do I know that critics, nor do I mean architectural ones only, are in the habit of employing numerous conventional phrases, which it would puzzle them not a little to explain. The "inventive genius" of Jones seems to be just such a phrase, unexceptionable as far as mere sound goes, yet without a shadow of meaning, except what must tend to mislead. On what grounds, I ask, is inventive power in his art claimed for one whose reputation avowedly rests upon what he did as a copyist, upon his having been the first to import into this country, from Venice and its *terra firma*, the style there formed by Palladio? The question now is not whether he benefited the art, and displayed his own superior taste by so doing, but what particular genius, what strength of invention, he manifested. Allowing that he is entitled to our warmest thanks for being the first to familiarise us with a style of design that was then in itself a novelty, it is difficult to conceive how that can possibly establish for him a character as an original artist. If it can also be shown that he both extended and improved upon the ideas he adopted; that in his hands the new style acquired graces it could not boast of before; that, while he preserved whatever was essentially good in it, he also purified it from whatever was in bad taste; then, indeed, there would be something like an adequate reason for ascribing that peculiar quality of mind to him which the above-mentioned term implies. I may spare myself the trouble of observing that I am unable to detect any of that marked inventive faculty which his admirers impute to Inigo: the *onus probandi* lies with them; and, if they can clearly substantiate his merits in that respect, by adducing satisfactory proofs from his works and designs, they will perform a more essential service than by prodigally heaping upon him the most adulatory compliments. Without being either inconsistent or ungrateful, we might now begin to relax a little in our commendation of that "great architect," whose fame would, in all probability, never have risen so high, had he not been identified with an important change in architectural taste, that could not but have taken place, whether he had ever existed or not. So far, his name has become a sort of landmark in the history of art, and the distinction thus conferred upon it has prevented his being estimated according to his positive merits. Nevertheless, it is not greatly to be wondered at, that, even now, he should continue to be overrated by the million. To adopt ready-made notions, to join in chorus with established opinion, no matter how it be established, saves all unnecessary trouble of thinking, and is, withal, perfectly safe. Doubt is silenced at once, as impertinence, or something worse, by an appeal to authorities, now known to be so worthless in other respects, that we ought to be ashamed of continuing to quote them; nay, in all likelihood, many of those writers who have extolled Jones would have expressed a very different estimate of him, had they lived in our own time, and been furnished, as we are, with the means of studying, not Grecian architecture alone, but various other styles then entirely neglected. There is, I suspect, a great deal of cant afloat in regard both to our "English Palladio" and the Italian one: at least, I could never meet with the person who could specify any of the numerous beauties that he might insist are to be met with in their works.

Having nothing further to say at present on this topic, I ought here to take my leave, and give place for some one else; yet, before I put my pen out of my hand, I wish to be allowed to make a comment upon a passage in Scrutator's last communication (p. 402.). "There is not one architect in five," says he, "that properly understands his profession; and, for want of this practical education, they can only be called artists." It may be that Scrutator has not expressed himself as he intended; for, taking the words themselves, they certainly do appear to advance a most extraordinary kind of doctrine: no less than that a person is especially entitled to be considered an artist in the architectural profession, because deficient in that knowledge requisite for the practical man. No one can be readier than myself to admit that a person may be thoroughly skilled in all that relates to construction and building, and yet utterly destitute of talent in all that comes under the head of design, taking that term in its most comprehensive sense, and not confining it to ornamental detail alone. Nevertheless, I do not see what pledge is afforded for superior ability in design, by the absence of plodding technical skill. It is a remark of Swift's, that if you meet a woman with a bandbox under her arm, ten to one but she is a woman of easy virtue; and if you meet a woman without a bandbox, why, it is still ten to one that she is the same. So, too, we may say, that when we find an architect cried up as a very skilful builder, the chances are that he is no artist; and when we meet with one who has no reason to pique himself on the former character, the chances still are that he is no artist.

Were such, unfortunately, not the case, but did the deficiency in one set of qualifications guarantee the possession of the other, we should experience no difficulty in securing the services of both: and, indeed, it becomes a question, whether the principle of division of labour might not very judiciously be applied to the duties of an architect. The studies and the tastes requisite to form a complete architect lie in such exceedingly opposite directions, that it is almost hopeless to expect to find them fully united in the same individual: it is a combination barely possible, at least in any powerful degree. And, provided a fine work of architecture can be produced equally masterly as an achievement of art and as an operation of science, what matters it whether it be the joint produce of two minds acting in concert, each in its respective sphere, or that of a single one? When I say acting in concert, I do not mean that the two parties can exert equal authority, for that would be to act independently of each other. There must be a leader, one from whom the general ideas and the subordinate ones must emanate; and who should be capable of infusing into the whole scheme, and every portion of it, that which will stamp it as a work of art.

This will, I dare say, be deemed a most wild and extravagant proposal; but the main point for consideration is, whether such a system would not be attended with advantages which, if not positively unattainable, are rarely attained by the present one. There is, at any rate, one probability in its favour, which is, that were one party employed exclusively to conduct all that belongs to artistical design, he would, as a matter of course, be expected to manifest some superior ability in that department, and to make it apparent that his office was not altogether a sinecure; nay, let the scheme itself be thought ever so absurd, it is even now partially acted upon, although never avowedly; for it would not be difficult to mention instances in which the nominal architect and the real designer have been two different persons, the latter being employed by the other to shape his rough ideas into symmetry and beauty. That the practice is a very common one, I do not say; though, perhaps, the public would be gainers were it far more common than it is; and, if the quality of the article itself be thus improved, why should we quarrel with the mode in which it is manufactured? However, it is possible that, after all, I have taken a very erroneous view of the subject; and, in that case, some one will, doubtless, take an early opportunity of convincing me of my mistake. — *Candidus. London, Sept.* 2. 1835.

Hakewell's Elizabethan Architecture. — I do not think so much of this work as you appear to do (p. 369.). The plates are good; but it would not be candid to say that, as a *whole*, the book is meritorious or useful. Mr. Hakewell seems to think that a wondrous deal is gained by making out Elizabethan to be a bastard Italian style, instead of an Italianised Gothic. This, however, it is folly to attempt in the face of all existing examples; the Elizabethan mode not being at all the cinque cento of Italy, as he would have it (a dissertation upon which his book ought to be entitled), but having taken its existence and character entirely from the architectural transitions peculiar to this country, under peculiar auspices. — *N. London, August* 2. 1835.

Literary Composition of Architects and Surveyors — Allow me to direct your attention to the business letters, to the specifications, and to the written directions of every kind committed to paper by architects. I have had a good deal to do with architects, both as artists or designers of buildings, and as directors of their execution, and I must say, that I have known very few of them that could write in what might be called a correct style. As to the jargon of specifications and estimates, it is fit only for the times when architecture was a mystery, and was only permitted to be practised by freemasons. It appears to me, that you would do much good by calling the attention of your general readers to this subject, and suggesting to them, that they should not accept of any specification that was not written in a style that they perfectly understood, requiring that every technical term should be explained and illustrated, if necessary, by a sketch. This would soon create a demand for an improved language of architecture, if the phrase may be allowed. The architects ought to set about improving the language themselves, but as they do not seem to show any inclination to do so, the only way that I know of to bring it about is by "pressure from without." In this respect, indeed, architects and artists do not differ from the other professions; for what profession or trade ever set about reforming itself? All great improvements in the arts seem to be the results of impulses given by the mass of society, and not by the voluntary exertions of the individuals connected with these arts. But to return to the literary composition of architects, I would strongly recommend all young men studying the profession not to spend the whole of their leisure time in copying drawings, but to devote a portion of it to the study of grammar and syntax. If they do not, when they get into practice they will be laughed at by their workmen, who are now, perhaps, at the Infant School. Besides I can tell them from experience, that when an intended employer writes to an architect or an artist whom he never saw, he forms an opinion of him much more from the sort of letter he writes, than from any thing else. — *A Solicitor. London, July,* 1835.

The Regulations of the Institute of British Architects. — Our correspondent, T., very properly (p. 373.) calls our attention to some of the regulations of the Institute of British Architects, by which surveyors, builders, and architects who measure or value any works, except those executed from their own designs, are to be excluded. The reasons for this exclusion are nowhere, as far as we are aware, explicitly stated; and, therefore, we can only form conjectures on the subject. The object for this regulation, we should think, must either be some contemplated benefit to the public, or some contemplated benefit to the architects composing the Institute, in which surveyors and builders are not to participate. Now, if the object is any contemplated advantage to the public, we say that, if the public rely upon getting any advantages from an exclusive association of persons who are to be employed by them, whether these persons be architects, artists, lawyers, or physicians, they will, in the long run, be disappointed, as the experience of all past ages has sufficiently shown. If, on the other hand, the object of the architects is chiefly to benefit themselves, then all that we say is, that we differ widely in opinion from them as to the best mode of doing this. The mode of an exclusive corporation may have suited a former age; but it is altogether unsuitable for the present. The object of every association, either exclusive or open to all the public, is to accumulate power, and to direct it to such objects as cannot be attained by individuals alone. Hence we should say that a Society of British Architects might be very desirable for collecting a library, or a museum; for procuring models or drawings of buildings in distant countries that had not yet been modelled or drawn; for publishing works which individuals could not be expected to publish; and so on. The meeting together of individuals engaged in the same pursuits is also always desirable, with a view to the reciprocal communication of knowledge, and the promotion of good feeling. For these purposes, the more powerful the body, provided that power were well directed, the better; and, therefore, instead of excluding any class of men, we would, for this reason, and for others to be mentioned, include every class whatever, and females as well as males, provided the individuals were of good moral character, and could pay the annual fee. One consequence of including all classes would be, that some of all classes would become architectural amateurs, and have their taste, which, perhaps, may till then have lain dormant, developed, and displayed in their houses and furniture. Another consequence would be a powerful purse, by which many most useful and gratifying objects could be attained, such as a splendid public hall and museum, which never can be while the Society is limited to members of the profession. With respect to excluding surveyors and builders, our opinion is, that one of the greatest goods that could result from an architectural institution such as we contemplate would be the mixing of architects, not only with surveyors and builders, but with cabinetmakers, upholsterers, ironmongers, house-painters, &c. The professional intercourse that would take place between these parties could not fail to reciprocally improve them; and we really believe that those who would, or, at least, ought to derive the greatest improvement would be the architects; and for this we have the authority of Scrutator, whose extensive experience and independent principles entitle his opinion, on all subjects connected with architecture and building, to the highest respect (see Scrutator's remarks, p. 402.). Perhaps the Institute may entertain an idea that the public will think that better architects will be found belonging to an architectural institute than are to be found unconnected with one; but the history of Royal Academies shows that this is matter of accident. Anything which has a tendency to elevate a man in public opinion, otherwise than by his own individual merits, is so far bad; and, to a person totally ignorant of architecture, who wished to employ an architect, the circumstance of one professor belonging to a society, as compared with another who does not belong to it, has this tendency. If such be the object of the Institute, or if it can be proved to have this tendency, then we say that its interests are at variance with those of the public. On the other hand, if all, without exception, were admitted, we should say that, in consequence of the freedom of communication and the general intercourse that would take place, the architects, architecture, and the public would be gainers. We have long felt quite confident of this; that the most effectual mode of advancing the architecture of the country is to diffuse, as extensively as possible, a taste for architecture and a knowledge of it; and, though we think this is chiefly to be done by engravings and by cheap publications, yet societies might also do a great deal. If this would be best for architecture and the public, it would also be best for architects. It would not be difficult to show, that the surest foundation on which these gentlemen can found their hopes of future employment is on the taste of the middling classes. The time for building palaces, castles, and cathedrals is gone by, or nearly so, and that for town halls, schools, museums, libraries, theatres, and laying out public gardens in all towns and villages, with comfortable and elegant cottages and mansions, is approaching. It is our opinion, therefore, that the greatest good which an architectural society could do, would be to diffuse, as extensively as possible, a knowledge of their art among all persons whatever, but more especially among females, surveyors, builders, carpenters, ironmongers, and in short all trades connected with building. Every one cannot employ an architect, but there is no person whatever who does not employ one or more of these tradesmen. — *Cond.*

The Strength of Materials. — For the sake of forwarding the interests of your Magazine, I wave all excuses that are open to me, in replying to W. J. S. (p. 329.). My assertion was, that the rules extant were sufficiently correct to apportion the size of timbers, so as to preserve a consistency of strength throughout the building. Tredgold's rules and tables of scantlings for story-posts, in his *Carpentry* (p. 229.), are those I referred to; and I had also in view his book on *Cast Iron* (p. 42.). From my personal knowledge of Tredgold's ability, and the practical experience I have had in applying his calculations, I am not disposed to undervalue these tables as data for graduating the dimensions of story-posts, under variations of load and distances apart, coupled with the cases every practical man has continually before him.

As to the absolute correctness of these rules, and the facility of making allowances for defective materials, every architect and engineer must judge for himself; always recollecting that the strength of any scantling or other material is not greater than its weakest part.

With regard to the curve described by an over-load or place of fracture, your correspondent seems to have disregarded the fact, that it is resistance to flexure, and not to fracture, which we must seek for and adopt in calculating the strength of a building, or its constituent parts. All beyond this is mere experimentalism, leading to no practical good; for, after all, something must be allowed for the duration of materials, without which our buildings, in general, would only be of adequate strength at their completion, and until partial decay ensued. I need not trace the cause of decay, which, of course, is progressive, according as the elements of construction are able to resist the elements of decomposition.

The advantage gained by swelling the shafts of columns depends on whether it is proposed to gain the "stability of position," or the "stability of resistance." If the stability of position is required, I apprehend a diminished column would be better than a plain cylinder, but not so good as the Eddystone shaft; and the stability of resistance would be gained (with a minimum of materials), by having the post or column fish-bellied; i. e. stouter in the middle than at either end: for if the upper end be strong enough, the lower end need only be so much larger as will carry the weight of the column, in addition to the load, which is trifling compared to the load itself; the resistance to flexure would be met by the increased size of the middle, &c. I have read Mr. Barlow's pamphlet, denouncing fish-bellied rails for roads, and agree with him as to that particular application, because their load is active; whereas the load of a story-post is passive.

If your correspondent wishes for more information on these matters, I beg to suggest that he may apply to Mr. Herapath, who is amusing the world gratuitously with an account of the results of his theoretical attainments (see a series of letters by that gentleman in the *Mechanic's Magazine*, vol. xxiii.), for which every mechanical man ought to be grateful. I doubt not Mr. Herapath would give a more satisfactory analysis of the foregoing subject than I have done, to those who require excessive precision; and until persons acquire the "humility of experience," they will attach more importance to theory than those who have passed that ordeal. — *W. Thorold. Norwich, July* 15. 1835.

Censor's "Observations on the comparative Advantages of the various Systems of heating by Hot Water now in Use." (p. 407.) — This article is so erroneous in some of its statements, as far as regards my patent system of circulating hot water in tubes closed in all parts, that I am induced to endeavour to set your readers right by a simple statement of a few facts, which my experience of the system has enabled me to prove.

Censor "believes" that the tubes used by me would not stand a pressure of 40 atmospheres; but, if he will favour me with a visit at my manufactory, I will convince him that the tubes are now invariably proved, both before and after they are erected, by means of the ordinary hydraulic forcing pump, to upwards of 100 atmospheres; and, still further, that the pipes will sustain a pressure of even 300 atmospheres. As to the scalding effects of steam heated to high temperatures, Censor may satisfy himself upon that point at the Gallery of Practical Science in Adelaide Street; and there "any twelve intelligent engineers" cannot but be convinced.

His next error is, in supposing that the quantity of heat given out by any heated body increases only in an arithmetical ratio, whereas it increases in a geometrical ratio; he will therefore be surprised to find that a pipe one inch in diameter, heated to a given degree, will give off as much heat as a pipe of four inches in diameter, heated to only half the temperature.

As to his "own particular notion" respecting its safety, he says that the tubes are formed of what is called "rolled gas tubing." Now, they are not *rolled*, but *drawn;* neither are they formed of gas tubing, for they are made purposely for the work they have to perform; and all those which, when proved, are found not perfectly welded are thrown aside, and not used. With respect to the expansion tube, Censor accuses me of carefully keeping it in the back ground; this, however, is not the case, for those tubes, although from their size they are not so strong as the smaller tubes, are yet sufficiently so; and are always proved (as the smaller tubes are) to upwards of one hundred atmospheres. He then closes "his notion" by saying that he believes that "in fact, in most cases, it is only a mode of heating by high-pressure steam, and that at no very great pressure either (care being taken that the coil in the fire shall not be able to burst the pipes), which goes by the title of the 'patent hot-water apparatus;'" thus rendering his own question, as to how we know the amount of pressure to which the tubes are subjected, a useless one, as he says himself, that "care is taken that the coil in the fire shall not be able to burst the pipes."

Censor observes that he has not had much opportunity of observation of this system himself; but that he has "excellent authority" for what he states; and goes on to say that he has been informed of an instance of an apparatus which has an imperfect joint, and which requires to be replenished with water every twenty-four hours: from this circumstance he draws another very erroneous conclusion; namely, that, in consequence of the escape of the water, the tubes become coated with sediment on the inside. Now, the fact is, that the tubes cannot become coated with sediment on the inside from this cause, for the following reason: if a joint is defective, it leaks *hot water* with all the matter which the water originally contained still held in solution: this has been demonstrated by filling the tubes with a strong solution of salt, which, if forced out by internal pressure, and the pipe be hot enough to evaporate it, has been found to cause a deposit on the *outside* of the pipe; and actual observation has proved that there was no deposit whatever on the *inside*. Indeed, it is impossible to separate steam from water in such small tubes, or in so small a reservoir for steam as the expansion tube; if the apparatus leaks, it must necessarily leak hot water, as steam can only be produced where it has an opportunity to expand; and until steam is formed there can be no deposit, consequently the pipes cannot be filled up.

He then speaks of the friction of the water in the tubes, and of the immense resistance occasioned by the vast number of bends. The amount of these obstacles I can assure him is so small, that I know not an instrument sufficiently delicate to measure the difference of the resistance when the pipes have bends in them and when they have not; as the water, probably, never circulates faster than ten feet in a minute.

Censor also says, that he is "strongly disposed to doubt whether, if a common apparatus of the sort were left open, and kept under the boiling point, the water would circulate in it otherwise than very languidly indeed;" in which he is right; and this shows the necessity of closing the apparatus, that it may work with effect.

Then comes another fact, from which he draws the conclusion that the danger of bursting is very formidable. If, through some imperfection in the apparatus, the water were allowed to escape, without being replenished, the natural consequence would be the formation of hydrogen gas by the decomposition of the water remaining in the tubes; which, although not sufficient to keep up the circulation, would be enough to be partly decomposed by the red hot tubes. This would be the case the moment the water was so reduced in quantity that it could not circulate; for it would then be driven out of the furnace coil by the repellent power of the heat, and the coil would become red hot. Under these circumstances, the coil might be destroyed by the action of the fire, but without bursting; as there would be no internal pressure upon it from either water or steam: and it is well known that hydrogen gas is not explosive until mixed with a certain proportion of atmospheric air.

With respect to maintaining a uniformity of heat by means of small pipes, nothing is easier; and it is done, wherever required, by the manner in which the furnace is constructed. I find no difficulty in building a brick furnace so that an equal heat may be kept up by it for twelve hours together, without attention, and that it may still retain the advantage of heating the pipes rapidly.

I regret that Censor should have reasoned upon hypothetical statements, when there are so many facts existing illustrative of the soundness of the principle upon which my system is founded. It is impossible for an inventor to have control over the erection of every apparatus; neither is it surprising that some may have been so ill constructed, in the earlier stages of the invention, as to work imperfectly. A useful improvement should not, however, be condemned, because it may have been sometimes carelessly executed or attended to. Even the steam-engine is good or bad according to the skill of the maker; though nobody will now dispute its utility on that account. — *A. M. Perkins. Great Coram Street, London, Sept.* 5. 1835. See art 3, p 42.

An End to heating by Hot Water in Dwelling-Houses. — Observing (p. 308.) a prediction by P. Q. R., that "in ten years there will be an end to the application of hot water in heating dwelling-houses, unless some mode is devised that will get rid of its present inconveniences, under every modification of apparatus," allow me to offer a few remarks upon it, being myself one of the hot-water fraternity, and having erected, perhaps, as many works of the kind in this country as the aforesaid P. Q. R.

There is one "modification of apparatus" which P. Q. R. has not adopted, and, therefore, may not be qualified to speak of; viz. by means of tubes one inch in external diameter, on Perkins's principle. These tubes are so adapted, by their small size, for introduction into dwellings, and so easily put out of sight by being coiled up, or otherwise disposed of, that I have never met with such insurmountable difficulties as seem to have frightened your correspondent, although I have been engaged in fitting them up ever since their invention. Leakages (the chief objection to all other plans) I am never troubled with.

The tubes being hermetically closed in every part, there is no fear of the water boiling over, and placing my customers in the same unfortunate predicament as those of P. Q. R., who candidly admits that he has "put more people in hot water than any other person in this country." After this, it is no wonder he should be anxious to throw cold water upon the system. I shall be glad to hear what further peculiar inconveniences P. Q. R. has to complain of, as I may, perhaps, be able to put him in a way to surmount them; and beg to conclude, like him, with a prophecy, by predicting that a hot water apparatus, such is its comfort and so moderate its present expense, will soon be considered indispensable in dwellings, unless, indeed, some better method should spring from the fertile brain of P. Q. R.—*W. Walker. Dublin, July* 13. 1835.

Mr. Leeds's Plan of a Room, fig. 176. p. 394.—By some mistake of the engraver, this plan is incorrectly given in a very material point; for, on the window side of the room there is no break where the recess commences, although there is one on the opposite side; consequently the symmetry of the whole is destroyed, which is the more unfortunate, because so much is said in regard to that very particular. — *W. H. Leeds. September* 2. 1835.

We have had the engraving corrected, as in *fig.* 209.

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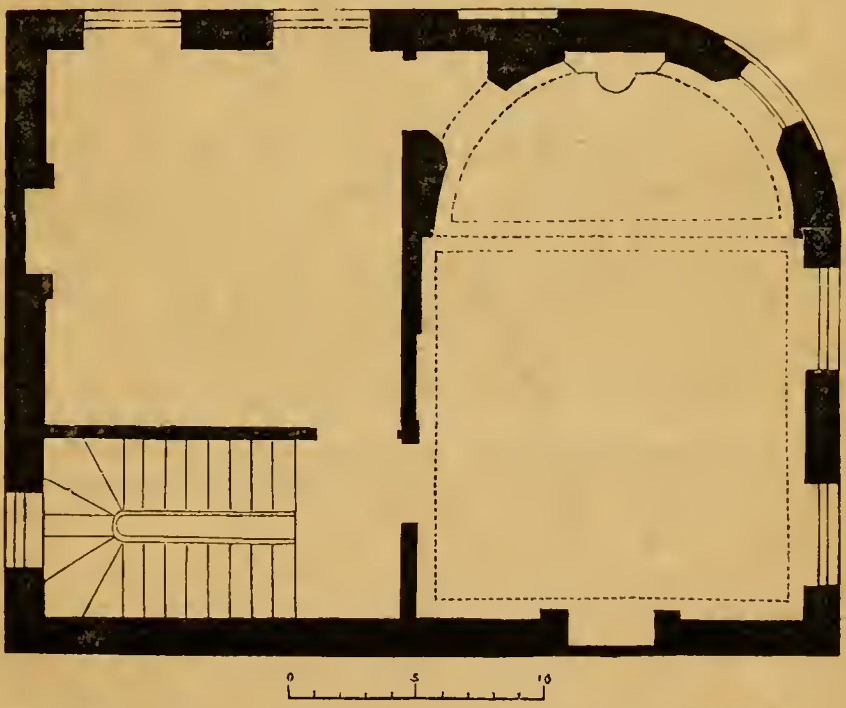

Turnpike Lodges. (p. 159.) — Your correspondent's (Tyro's) plan for turnpike lodges is certainly a great improvement; but I think his choice of Grecian architecture for the elevations is not so judicious. The simple and bold details of the Egyptian style would, perhaps, be more appropriate. — *W. London, Aug.* 29. 1835.

ART. V. *Queries and Answers.*

IRON WHARFS. — Your querist, B., will find a full description, illustrated by engravings, of iron wharfs, under the head manufactures, in the *Encyc. Metrop.* The three parts, comprising manufactures, works, &c., are being published separately. — *W. London, Aug.* 29. 1835.

Fall of the Suspension Bridge on the Duke of Buccleuch's Estate in Scotland. — As much is to be learnt from failures, perhaps one of your correspondents would send a description of the above bridge, with his opinion as to the cause of the accident. Should it prove to have arisen from any faults in the construction, such facts would be highly useful to persons when about to erect similar bridges. — *Id.*

The new County Hall at Hereford. — Will some of your numerous correspondents favour me with a description of, and the expense of erecting, the new County Hall at Hereford, in praise of the design and internal arrangements of which I have heard so much spoken? — *H. L. London, Sept.* 3. 1835.

ART. VI. *Obituary.*

FRANCIS GOODWIN, Esq., Architect.—Several times has Mr. Goodwin's name appeared in our journal, and we have now to record it as that of one whose career is finished. His decease, which happened on the 30th of August, was exceedingly sudden, he being carried off by a fit of apoplexy almost instantaneously; the result, it is conjectured, of his application and anxiety of mind for some time previous, during which he had been unremittingly employed in preparing designs for the new Houses of Parliament. Had he lived to perfect them, it is very probable they would have been among the more successful ones; for Mr. Goodwin frequently displayed ability in arranging a complex subject, and the designs he made, about two years ago, for a new House of Commons, were generally allowed to be the best of those sent in. It may, therefore, very reasonably be supposed that he had a very fair prospect of success to stimulate him. He had never executed any thing in the metropolis itself, nor, we believe, in this part of the kingdom; all the churches and other public buildings which he executed being in Lancashire and the adjoining counties. A list of them will be found in the introduction to the second series of his *Domestic Architecture;* we shall therefore only mention the Town Hall at Manchester, which may, perhaps, be considered his *chef-d'œuvre*, at least as regards the interior; although that, we understand, has been rather injured than improved by the gaudy and showy frescoes lately painted on it.

In almost every competition for a building of any importance, drawings were sent in by Mr. Goodwin, and these frequently obtained for him one of the premiums offered. This was the case in regard to the new Grammar School at Birmingham, a drawing of which was exhibited by him last year at Somerset House. Yet he generally went to so great an expense in preparing drawings on such occasions, that a premium could hardly have indemnified him for the time and cost bestowed upon them.

Some few years ago, he brought before the public a scheme for an extensive cemetery in the immediate vicinity of the metropolis, the drawings for which were exhibited gratuitously for several months, at an office taken for the purpose in Parliament Street. The grounds were to have been ornamented with a variety of edifices, copied from the principal buildings at Athens, of some of which there would have been duplicates in the corresponding parts of the enclosure. This project excited some attention at first, but soon died away; and, in fact, it was upon such a scale, that it could hardly have been realised.

During a great part of last year, Mr. Goodwin was in Ireland, preparing designs for extensive additions to the college at Belfast, including a magnificent building for a museum, the plan of which would have been ingenious and novel; and he was also going to erect some baths at Dublin: yet both these undertakings seem to have been altogether abandoned.

Of his work, entitled *Domestic Architecture*, we have already spoken at length on two former occasions, and have now only to lament the loss of its author.

THE

ARCHITECTURAL MAGAZINE.

NOVEMBER, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *On Projection; or, the different Modes of delineating Elevations, commonly called Isometrical.* By Mr. Peter Nicholson, Author of the "Architectural Dictionary," and other Works.

My only wish, in presenting this paper upon Projection to your notice, is to make the subject clear to the understanding of the reader, and to prevent the dissemination of wrong principles.

Projection in general is the art of delineating the representations of objects upon a plane, so that straight lines, passing, according to a given law, through or from the lineal parts, or the contour, of the object, may fall upon the corresponding lines of the drawing. The straight lines passing between the object and its representation are called rays, or projecting lines; the representation is called the picture, or projection; and the plane is called the plane of projection. If the law of the projecting lines be that of converging to a point at a limited distance, the picture is called a *perspective projection.* If the law be that in which the projecting lines are perpendicular to the plane of projection, the representation, for subsequent reasons, is properly called *orthographic*, or *orthogonal*, *projection.* If the projecting lines are parallel among themselves, and oblique to the plane of projection, the projection as yet remains without any name by which it can be generally recognised.

In order to show the discrepancy in the use of terms, the learned Dr. Brook Taylor, in his *Linear Perspective* (published in 1715), employs the words plan and elevation (see p. 21.) in the same sense as they are also used at the present time by architects and surveyors, not only for building, but for all geometrical solids, whether reposing upon a face, or an angle in any position. In p. 26., he says, "The reader may exercise himself in drawing the representations of the five regular solids, in order to which their plans and profiles may be found in the following manner:" which he goes on to describe. It is somewhat extraordinary, that, in his *New Principles of Linear Perspective* (published in 1719), which have been followed by the best modern writers on the subject, he uses the terms *ichnography* and *orthography* (p. 3, 4.), instead of the familiar expressions, plan and elevation, as in his former treatise. He observes (p. 4, 5.) that "These are the common definitions of the terms ichnography and orthography; but we shall hereafter use them to signify any two projections that are made by systems of parallel rays, when these systems are perpendicular to each other, and to the plane on which the projections are made." In this kind of projections, the projection of any particular point or line is sometimes called the seat of that point or line in the plane of projection.

In a work recently published (1834) *On Practical Geometry, Linear Perspective, and Projection*, under the superintendence of the Society for the Diffusion of Useful Knowledge, the author, Mr. Thomas Bradley, has included under the term orthographic projection, not only projection made by a system of parallel rays perpendicular to the plane of projection, but also projection by a system of parallel rays oblique to the plane of projection; and what has been generally called orthographic projection, he calls plans or elevations (p. 230.), accordingly as the plane of projection is supposed to be horizontal or vertical. Plans and elevations of common buildings are the easiest description of geometrical solids, being generally rectangular parallelopipeds, having two faces parallel, and four perpendicular, to the plane of projection. Bishop Horsley, in his *Elementary Treatises on Practical Mathematics*, and the late Professor Vince, call that species of projection in which the plane of projection is perpendicular to the rays by the term *orthographical projection* in its proper restricted sense. The projection of the sphere made by lines perpendicular to the plane of projection is called properly, by all authors, the *orthographical projection*. Professor Young, in his *Treatise on Analytic Geometry*, employs the term orthogonal projection in its limited sense, and very properly, as the word *ortho* signifies right. In geometry the words right and oblique are contrasted together, as a right cone, a right cylinder, &c.; an oblique cone, an oblique cylinder, &c. Projection, therefore, whether considered from a system of converging or parallel rays, is only right or oblique. In that species of orthographical projection in which the right-lined representations have the same proportions among themselves that the originals have, an improper use is made of the word perspective (introduced by Professor Farish), by calling this species of representation *isometrical perspective*, instead of *isometrical projection*. By such an indiscriminate use of words, those who have read one author will get into confusion when they come to read another.

Every kind of projection may be well elucidated by the doctrine of shadows; placing a wire frame, paneledwith glass' representing the external form of the object between the luminary and plane of projection. If the object be exposed to the rays of a luminous point, which the flame of a lighted candle may be supposed to be, we may have every possible linear perspective projection of the object, more or less agreeable accordingly as the luminous point is more or less remote, or as the plane of projection is perpendicular or inclined to the middle ray. If the paneled frame form a rectangular parallelopiped, and if one of the faces be parallel to the plane of projection, the opposite face will also be parallel, and the four adjacent faces perpendicular, thereto. In like manner, if the paneled frame be exposed to the solar rays, from the distance of the luminary, they may be considered as parallel; we shall then have every possible kind of projection made by a system of parallel rays, more or less agreeable accordingly as the plane of projection is perpendicular or inclined to the rays. If the paneled frame form a rectangular parallelopiped, and one of the faces be parallel to the plane of projection, the opposite face will also be parallel, and the four adjacent faces perpendicular, thereto: in this case, if the projecting lines fall perpendicularly to the plane of projection, the projection will only consist of one rectangular figure, which is the projection of the two faces parallel to the plane of projection; the other four faces being projected upon the edges of the rectangle. This is a case in orthographical projection of the usual form and position of buildings: but, if the projecting rays fall obliquely upon such a paneled frame, the faces that were parallel to the plane of projection will be projected into two separate rectangles, and the four adjacent faces generally into oblique-angled parallelograms. The method of finding the projections of such objects in such positions, for the want of an appropriate name, has been called parallel projection, in analogy to the improper term parallel perspective. The terms parallel perspective and parallel projection would not be generally recognised, when the object is not comprised under rectangular faces.

In projection by a system of parallel rays, the rays, taken collectively, form a prism of which the projection is the base; such a projection may therefore be called a *prismatic projection*. If right, it may be called an *orthographic projection*; and, if oblique, an *oblique prismatic projection*. In perspective projection, the system of rays forms a pyramid, the picture being the base, the point of sight the vertex, and the perpendicular from the point of sight to the base the distance from the eye to the picture. All perspective projections which have the foot of the perpendicular within the base, or picture, may be termed right perspective, and such representations as have the foot of the perpendicular without the outline of the picture, or base, may be termed oblique perspective. At a given distance of the eye from the picture, the nearer the foot of the perpendicular is to the middle point of the outline of the space occupied by the drawing, the more agreeable the picture will be. But under every circumstance, even supposing the picture placed between the eye and the object, when the angle made by the projecting lines, or any portion of them, and the perpendicular is very great, many of the projections of straight lines will be greater than their originals. Anamorphoses belong to this species of projection. We cannot say, in any case, however monstrous or distorted, that the perspective is false, if the picture is drawn by the proper rules; for, if such a picture be viewed opposite the foot of the perpendicular from the eye, at a distance equal to the perpendicular of the pyramid, the image will be perfectly natural. Dioramic views verify the truth of perspective representations upon a plane. Similarly, the projection of solids upon a plane perpendicular to parallel projecting lines is much more natural than that of parallel lines upon an oblique plane. In the former case, the projection of no line can be greater than its original, but generally less; in the latter case, the projection may be less or greater than the original, as the angle which the rays make with the plane of projection is greater or less than 45 degrees; but in no case can a projection be called false, even though some of the lines in the projection may be greater than the original.

In the volume on geometry, published in the *Library of Useful Knowledge*, your readers will find a portion devoted to the theory of projection, in which the theorems are elegantly demonstrated, both in regard to a system of converging, and a system of parallel, rays. The writer of that article comprises under the head of orthographical projection both systems of projection by parallel rays. Mr. Bradley, in a subsequent volume, before quoted, uses the term in the same sense; perhaps in compliance with the original definition in the anterior publication on geometry. He even prefers the projection of some solids by a system of parallel rays upon an oblique plane, to that upon a plane to which the rays are perpendicular, as is evident when he says (p. 235.), "Orthographic projection is hence peculiarly applicable to the representation of small bodies, as crystals, which would naturally be viewed from such a distance in proportion to their size, that the rays would approach nearly to parallel lines; and, on many occasions, the construction of such projections is rendered considerably more easy, by assuming the projecting lines as oblique to the plane of projection."

Perhaps your correspondent, Mr. J. R., has neither seen nor heard of the one nor the other of those two volumes; if not, I would recommend them to his perusal before he makes another attempt at reviewing the works of others; and, if he writes under the conviction of mathematical principles, he will not be ashamed of his name and residence appearing in public. Though I do not approve of Mr. Bradley's definitions, as before specified; nor of the preference which he gives to the projection of certain solids by a system of parallel oblique rays, over that upon a plane perpendicular to the rays; the author is too transcendently acquainted with the principles of mathematics to commit a falsehood. Those, however, who maintain that a projection is false, because some of the lines are greater than their originals, maintain a falsehood, as has been here made evident.

Newcastle upon Tyne, July, 1835.

ART. II. *A short Sketch of the Amusement afforded to Architects who choose to waste their Time by submitting a Design in a public Competition.* By a DUPED ARCHITECT in the 19th Century.

THE following account of a public competition is in illustration of the above; and, I think, not out of place, considering that there is now under consideration a national work in the above shape: therefore the public, and the profession in particular, cannot be too vigilant in watching its progress. On the 29th day of May, on perusing the *Morning Advertiser*, a paper I do not see perhaps once in a year, I chanced to alight on an advertisement addressed to architects, notifying that a public body wished to receive plans for a proposed new school, which it was the intention of the trustees and committee of this public body to erect; and that any parties who thought proper to submit a design, were to declare their intention of so doing, by addressing a letter to X. Y., Dean Street, Soho. Through the channel indicated, I, amongst many others, proclaimed my resolution to the above effect; and, after waiting several days, I received a reply, naming 127. Fleet Street as the place, and between ten and twelve o'clock as the time when I was to have an interview on the subject of my letter to X. Y. At this interview I received a printed paper, purporting to be "particulars relating to the building proposed to be erected in lieu of the present Licensed Victuallers' School, in Kennington Lane, Lambeth." I asked some question relative to the proposed building, but received as an answer, that "no further information than that contained in the printed particulars would be given." This enlightened printed paper began by observing that accommodation for 250 children was required; that the building was intended to be of brick, with a *stone portico;* that the front of the building was to be faced with stone, as high as the first floor; and that it was to be built in a style of *simple elegance*, keeping in view, as much as possible, economy; that the plan of the school was to provide for a complete separation of the boys from the girls;

and that the proportion was rather more than three boys to two girls. It then gave a list of the rooms and offices which the building must contain: after which, it requested that plans and elevations (sections being of no consequence) might be sent to the secretary, at No. 127. Fleet Street; and that every design should be accompanied by a *sealed letter*, addressed to the Trustees and Committee of the Licensed Victuallers' School, and indorsed, "Plan for a New School," together with a *private mark or motto*, corresponding with a similar mark or motto to be placed on the plan transmitted with the letter. Also, *no letter* would be *opened*, except those of the successful competitors for the two premiums, and all other letters would be returned *unopened*. Now, in the first place, the architect was obliged, by dictation, to have a portico, no matter in what style (most probably the style had been agreed upon beforehand, I only say most probably). But consider what an opportunity was afforded with this portico, and the ground story high-faced with stone, for a display of simple elegance, and a decided veto on any profusion of ornament or architectural embellishment: although I must confess that is greatly against the general practice where a Licensed taste is consulted; but no doubt it had been resolved upon after the most mature consideration of the gentlemen trustees and committee. The next portion to which I beg to call your attention is that usual appendage respecting sealed letters, private marks or mottoes, and unopened letters, which, to all appearance, promised a noble disinterestedness and indescribable impartiality; in fact, a spirit-level kind of justice; and, not being able to resist such a glorious display, I fell a victim.

After two days' labour on my plans, &c., I received a letter to say, that the plans and elevations were to be sent in on the 27th June; that they were to be drawn to a scale of six feet to an inch, and that the successful candidate was to furnish a duplicate of his plan, &c., *gratis;* all this having been omitted in the printed particulars: it necessarily followed, that what had been done became useless, it having been drawn to a wrong scale. To begin afresh was therefore compulsory, and I began proceeding with my plans until the 12th of June, when comes another letter, to say that the time for sending in the plans and elevations was extended to the 11th of July, and that the committee did not pledge themselves that the successful competitor should superintend the erection of the new school, although he was to furnish a duplicate of his design gratis. Notwithstanding this noble meanness, I proceeded until the 19th, when another letter arrived, to say that some adjoining premises had been obtained, and that the same were at the disposal of the committee for building the new school; it then went on to say, that, "as this unexpected addition would probably make considerable alterations in the designs, the time for sending in the drawings would be extended to the 25th of July." A fresh paper of printed particulars was also enclosed, in which the various omissions and additions contained in the four letters were now embodied. The fortnight's time which had been spent on the design, the expenses which had been incurred, the other business which had been neglected, were considered by this Licensed Committee of Taste as duly appreciated in an enlargement of the time, because they had so far condescended as to imagine that there was a probability that, in consequence of this unexpected addition, a considerable alteration might be necessary in the design. Upon this third interruption, I had my doubts whether to proceed; but, upon further consideration, I arranged that I would, and the design, being completed, was forwarded on the 25th of July to the place named.

Having, of course, nothing more to do with the matter, I had now to wait the result, which I naturally did with some anxiety, having had the vanity to imagine that my design was worthy of notice; that it had its merits; in fact, having raised my expectations to that pitch, that I actually thought, although there was no probability of my gaining a prize, yet that it was not altogether a matter of impossibility: but, unfortunately for me, I learned on the Tuesday morning, 28th of July (the designs having been sent in on the 25th, Saturday), that the two prizes had been awarded; that the trustees and committee of the Licensed Victuallers' School had actually examined (at least, so I was told) forty-seven different designs (that being the number sent in) on the Monday, they having met early in the morning for the purpose; and within a few hours after noon they awarded the premiums. The only way to account for this rapidity of examination was, to suppose that this committee had such a profound knowledge of architecture, both as to theory and practice, as to be able to inspect these forty-seven different designs with the greatest facility, and to discover whether the various conveniences and accommodations required had been afforded, such as ingress and egress to all parts, yet a separation of boys from girls; light and good ventilation; a stone portico in a style of simple elegance; a ground story faced with stone; in fact, I must assume that a most minute, most careful, and most rigid investigation of the advantages and disadvantages, the conveniences and inconveniences, and of the good and bad qualifications of these forty-seven different designs, did take place, combined with a perfect disinterestedness, in a few hours of close application, and that by these means they became unanimous as to the two designs most eligible, and, as such, entitled to the rewards. What an awful scrutiny and fearful ordeal these two successful designs had gone through, and passed even to success! After this intelligence, I very naturally enquired who these two fortunate candidates were: the first, I was informed, had been the architect to the trustees and committee of Licensed Victuallers for some time; and yet these gentlemen, who, by their perspicacity and innate knowledge of architecture, had been enabled to thoroughly investigate the merits and demerits of forty-seven different designs in a few hours, only now, and that, as I must suppose, by pure accident, discovered that the merits of their own architect's plan or elevation were so great as to entitle him to the first prize. This clearly proves that the trustees and committee of the Licensed Victuallers' School had hitherto been wholly incompetent to judge of the abilities of their own architect, he having, no doubt, submitted plans and elevations long before it was resolved that the public body of architects should be made use of. The second prize was awarded to one whose father, by some chance, had been connected with a brewery; and the motto system, of course, having been closely adhered to, this was an untoward event. The prizes having been awarded, the next thing was to return the forty-five unsuccessful motto-gentlemen designers their inefficient drawings; but this did not take place until the following Saturday, although the two premiums had been awarded on the previous Monday. What object could there have been in retaining possession of these drawings until the Saturday? Thereby hangs a tale, for I must not suppose any good ideas could be gained from the rejected designs.

With this I take my leave, and beg of every impartial reader to draw his own conclusion on the statement, from the beginning to the end of this unbusiness-like affair, including the omissions in one letter, the additions in another, and the happy conclusion to which the gentlemen trustees and committee of the Licensed Victuallers' School arrived.

London, Sept. 1835.

ART. III. *Remarks on Competition Plans, with another instance of partial Decision.* By W. L.

In the early part of this year, the workhouse board of the town of Leeds advertised for plans for a new workhouse, and offered premiums of 30*l.* and 20*l.* for the best and second best plans: stating, in their instructions to architects, that "the cost of the building was not to exceed 10,000*l.*" All the candidates for this undertaking, with one single exception, prepared their plans in accordance with the sum stipulated to be expended; and, in the distribution of the premiums, the workhouse board awarded the first to Mr. Perkins of Leeds, and the second to

Mr. Austin of London; the plans of these gentlemen being entitled to the same, according to the rule laid down by the board. Notwithstanding this, the plan which the parish authorities have recommended for adoption is not the plan which obtained the first premium, but the plan of a favourite candidate, who did not adhere to the instructions given him, but deviated from the same, by exceeding the sum proposed to be expended by upwards of 2000*l.*

Now, Sir, can this be called fair competition? Is it not unjust and dishonourable on the part of the judges in this competition, to lay down instructions for the guidance of *all* competitors in preparing their plans, and then to deviate from them for the purpose of adopting the plans of a favourite candidate? The terms of the competition should, in all cases, be strictly adhered to by the candidates, as well as by all judges in competitions of this nature; and, if this rule had been followed up in the present case, I am confident a very different decision would have been come to.

From this, and other communications on the same subject in this Magazine, it appears to me quite necessary that something should be done by the profession, to put a stop to such unprincipled decisions as those in question; and, if all my professional brethren would agree to act upon some general rules in cases of competition, such as those stated in page 325. or 377., I am of opinion it would afford that protection to the profession which is essentially necessary for its welfare, and be the means of instituting fair and impartial decisions in all cases of competition.

I should hope that all my brethren will take this matter into consideration, and assist those who have already used their abilities to remove the evils complained of: for my own part, I only wish for a "fair field and no favour;" and, when this old adage is fully adhered to, it must follow that merit alone will be the rule of decision in all cases of competition.

Yorkshire, August 31. 1835.

ART. IV. *Old Fuller's Ideas on Building.* Communicated by J. A. PICTON, Esq., Architect.

DIPPING the other evening into old Fuller's *Holy and profane State*, a singular book, but full of acute and shrewd remarks, I met with the following chapter, "Of Building," which I have been at the trouble of extracting, in the hope that, if you print it, it may amuse the readers of the Magazine as much as it has done me. Most of the observations are quite as applicable at the present day, as they were at the time of their being written (the reign of Charles I.). If you think the extract worthy of insertion, be kind enough to preserve the orthography of the original, or it will lose much of its quaintness and piquancy.

28. *Warren Street, Liverpool, Feb.* 18. 1835.

" *Of Building.*

" He that alters an old house is tied as a translatour to the original, and is confin'd to the phancy of the first builder. Such a man were unwise to pluck down good old building, to erect (perchance) worse new. But those that raise a new house from the ground are blame-worthy if they make it not handsome, seeing to them method and confusion are both at a rate. In building we must respect Situation, Contrivance, Receipt, Strength, and Beauty. Of Situation,

" *Chiefly choose a wholesome aire.* For aire is a dish one feeds on every minute, and therefore it need be good. Wherefore great men (who may build where they please, as poore men where they can) if herein they prefer their profit above their health, I refer them to their physitians to make them pay for it accordingly.

" *Wood and water are two staple commodities where they may be had.* The former I confess hath made so much iron *, that it must now be bought with the more silver, and grows dayly dearer. But 'tis as well pleasant as profitable to see a house cased with trees, like that of Anchises in Troy: —

> " —— ' quanquam secreta parentis
> Anchisæ domus arboribusque obtecta recessit.'
>
> *Eneid*, ii. 32.

" The worst is where a place is bald of wood, no art can make it a periwig. As for water, begin with Pindar's beginning, *ἄριστον μεν ὕδωρ*. The fort of Gogmagog Hills, nigh Cambridge, is counted impregnable for want of water, the mischief of many houses where servants must bring the well on their shoulders.

" *Next a pleasant prospect is to be respected.* A medly view (such as of water and land at Greenwich) best entertains the eyes, refreshing the wearied beholder with exchange of objects. Yet I know a more profitable prospect, where the owner can only see his own land round about.

" *A fair entrance with an easie ascent gives a great grace to a building* where the hall is a preferment out of the court, the parlour out of the hall (not as in some old buildings), where the doores are so low pygmies must stoop, and the rooms so high, that giants may stand upright. But now we are come to Contrivance.

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* Alluding, I suppose, to the great consumption of charcoal in smelting iron, before coke began to be used.

"*Let not thy common rooms be severall, nor thy severall rooms be common.* The hall (which is a pandocheum) ought to lie open, and so ought passages and stairs (provided that the whole house be not spent in paths). Chambers and closets are to be private and retired.

"*Light* (*God's eldest daughter*) *is a principal beauty in a building:* yet it shines not alike from all parts of heaven. An east-window welcomes the infant beams of the sun, before they are of strength to do any harm, and is offensive to none but a sluggard. A south-window in summer is a chimney with a fire in't, and needs the screen of a curtain. In a west-window in summer time toward night, the sun grows low and over familiar, with more light than delight. A north-window is best for butteries and cellars, where the beere will be sowr for the sun's smiling on it. Thorow-lights are best for rooms of entertainment, and windows on one side for dormitories. As for Receipt,

"*A house had better be too little for a day, than too great for a year.* And it's easier borrowing of thy neighbour a brace of chambers for a night, than a bag of money for a twelvemonth. It is in vain, therefore, to proportion the receit to an extraordinary occasion, as those who by overbuilding their houses have dilapidated their lands, and their states have been pressed to death under the weight of their house. As for Strength,

"*Countrey houses must be substantives, able to stand of themselves.* Not, like city-buildings, supported by their neighbours on either side. By strength we mean such as may resist weather and time, not invasion, castles being out of date in this peaceable age. As for the making of motes round about, it is questionable whether the fogs be not more unhealthful than the fish brings profit, or the water defence. Beauty remains behind, as the last to be regarded, because houses are made to be lived in, not lookt on.

"*Let not thy front look a squint on a stranger, but accost him right at his entrance.* Uniformity also much pleaseth the eye; and 'tis observed that free-stone, like a fair complexion, soonest waxeth old, whilst brick keeps her beauty longest.

"*Let thy office-houses observe the due distance from the mansion-house.* Those are too familiar which presume to be of the same pile with it. The same may be said of stables and barns; without which a house is like a city without works, it can never hold out long.

"*Gardens also are to attend in their place.* When God (Genesis ii. 9.) planted a garden eastward, he made to grow out of the ground every tree pleasant to the sight, and good for food. Sure he knew better what was proper to a garden, than those, who now adayes therein only feed the eyes, and starve both taste and smell.

"To conclude, in building rather believe any man than an artificer in his own art for matter of charges, not that they cannot, but will not be faithful. Should they tell thee all the cost at the first, it would blast a young builder in the budding, and therefore they sooth thee up till it hath cost thee something to confute them. The spirit of building first possessed people after the floud, which then caused the confusion of languages, and since of the estate of many a man."

ART. V. *A few Observations on Church Towers.* By EDWARD BRIGDEN, Esq., Architect, Bristol.

PERHAPS there are few tasks of greater difficulty to the architect, than that of adapting a tower to a church designed in a classical style, whether it be Grecian, or Roman, or a modification of either. This difficulty is sometimes equally felt in a new building, where the architect has the power, in some degree, of adapting the structure to the tower, and the reverse, as in adding to a building already erected. In the Gothic style of course no difficulty exists, as tall spiry forms are its main and prominent features; but in classical architecture the lines are horizontal, and a lofty tower erected on such a composition must produce emotions of an unpleasant kind, as harmony, a principle of paramount importance, is entirely violated.

We know that the vulgar prejudice is in favour of *lofty* towers, and that an architect is sometimes compelled to sacrifice his own ideas of propriety to please the taste of the many: not that aspiring towers are to be objected to, for I consider them to be the greatest beauty of which a city can boast; but that we should endeavour to adopt some plan by which the incongruity of placing perpendicular lines in such a connexion with those of a purely horizontal nature may be avoided.

It has often been noticed, that the most objectionable practice is to raise a tower above (or rather upon) a temple, or an adaptation of the temple form. It seems difficult to determine why the form of a temple should be such a favourite with our modern architects, considering the general inapplicability of such a structure to the uses of a Christian church: for the beautiful peristyle must be abandoned; windows must be introduced in the flanks; and the roof must be anything but what appeared on a temple of antiquity: to say nothing about the necessity, perhaps, of obtaining accommodation for a peal of bells; to provide which accommodation a tower is often placed on the apex of the roof, and appears to be supported by it. In buildings of this kind, two inconsistencies are winked at; namely, this incongruity of the roof seeming to be the foundation of the steeple, and the want of accord in the main lines of the two parts of the edifice. This has, doubtless, led to the idea of raising a superstructure above the church, immediately at the back of the portico, that rises pyramidally, and upon which the steeple is placed: of this an example may be seen in the church in Eaton Square. It may be admitted that this contrivance prevents the tower from appearing to rise out of the roof; but then it gives an air of great depression to the portico, especially when viewed in front; and the discordance between the different lines is not avoided.

If a temple form be observed, no more should certainly be placed on it than a small turret; and this not a little temple, adorned with columns, that can have no possible appearance of being any useful appendage, or of performing any useful office, but a light ornamental accessory of subordinate character; for columns in towers generally suggest the idea that they are the only ornaments architecture can command in such a situation. A contrivance might be adopted to conceal the bell behind the tympanum, and thus a considerable saving in expense might not only be effected, but the means afforded of adding some additional richness to the body of the church, which no one who has noticed many of our modern churches would have cause to regret.

If the portico, instead of extending the whole width of the front, consisted only of four columns, a tall tower would be less objectionable, as the outline of the portico would approach nearer to the vertical (at least, in comparison with a hexastyle portico). But if the tower be carried up from the ground, the eye, in following up its outline without interruption, is not offended by any want of harmony. This we shall find to have been the practice, in most cases, of the architects of the time of Queen Anne; and it is to be observed, that they always made the lower part plain and bold, the whole composition increasing in lightness as the pile ascended.

The Italian method of erecting the campanile separately from the church might, I think, be adopted with success in many cases; and our church builders would not be altogether without authority, as there are examples of this nature in England of considerable antiquity. The architect, in this case, would not be confined in his design, and the public taste for tall belfries would be gratified at the same time.

Bristol, *Aug.* 5. 1835.

ART. VI. *Street Houses of the City of New York.* By WILLIAM ROSS, Esq., Architect.

IN my former communications [which, unfortunately, never reached us] I only alluded to the general principles, as it were, of the buildings of this city; in the present paper I intend to go more into the details. Of the general sameness of design (or rather want of design) in the street fronts of the houses, I have already spoken [in the lost papers]; and I likewise mentioned that the new houses are built much more substantially here than they are about London; but, on further acquaintance with the subject, this remark must be taken with great latitude. A much greater quantity of timber is, indeed, used in the joists and roof than in England; but the want of consideration which is shown in its application, as well as of scientific skill in its distribution, more than counterbalances this advantage. The fire law requires, for the prevention of fires, that no wall be built less than one foot thick; and the builder takes too good care of his bricks (which are here 8 in. long, 4 in. wide, and about 2 in. thick) to make them any thicker (i. e. than a brick and a half). When we consider that some houses are six stories high above the street, and two below its level for cellars and basement, it is evident that the practice of loading the walls with timber does not add to their stability.

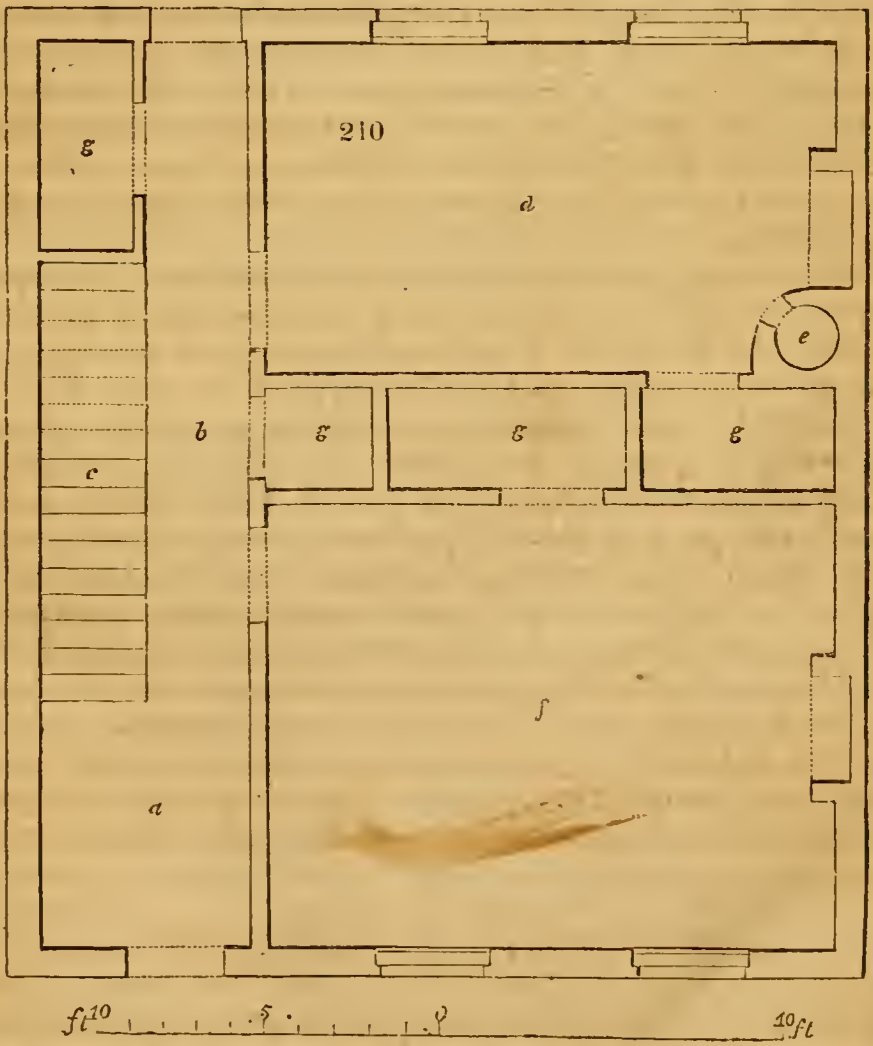
While writing this paper an alarm of fire was given in the neighbourhood, in a large house of four stories above the ground. The side wall has fallen, crushing the roof and considerably injuring the adjoining house, or rather store, which was at least 12 ft. distant from the one on fire, and would otherwise have escaped damage, as the wind was in a contrary direction. By the way, fires are so frequent here, that they excite no alarm (except in strangers, for the first night or so); and the rule is, if the alarm is given during the night, to put the hand on the wall at the head of the bed, and, if it feels rather warm, to get up; but, if otherwise, to turn about and go to sleep again.

To return: many of your readers may not be aware that the streets of all the cities in the United States are laid out in parallel lines, crossing each other at right angles, or nearly so, and at nearly equal distances apart. This will, in some measure, account for the sameness and monotony which I formerly alluded to in their appearance.

> "Street answers street, each alley has a brother,
> And half the city just reflects the other."

Each lot or building site occupies, as near as may be, 25 ft. frontage, and 100 ft. in depth. Of this depth the house occupies from 45 ft. to 55 ft.; the remainder is used as a court, at the far end of which are two Greek temples, dedicated to Cloacina; the only access to which is through the open court, exposed to all the rain and snow, and to the view of all the back windows in the house. These temples are placed immediately over the cesspool, into which, also, all the waste water from the house is thrown, and the whole surface exposed to the air when the flaps are left open. I leave to your pen to point out the effect of this arrangement, as it is more able to do it justice than mine. Yet there are officers styled "Inspectors of privies and cesspools."

I have already said that the greatest difference of design consisted only in the number of stories in height, and in the height of the stories themselves; so that I will now say something of their arrangement in plan. The lower, or second, story down from the street is intended for cellars, and need not be particularly described; the one over this is called the basement. (*fig.* 210.) In this plan there are, the entrance, *a;* passage, *b*, which is in length the whole depth of the house; staircase, *c;* kitchen, *d*; oven, *e;* and in the front is the large room, *f*, the windows of



which look into the front area, and where the family live, except when they have company. There are four closets, *g;* two entering from the passage, and one from each of the two rooms.

The rooms are all divided by quarter partitions, seldom, if ever, trussed; the sides are all battened out from the walls and lathed; and to this circumstance is attributable the oversight I committed in my last, when I said that the houses here were built more substantially than in London.

On the principal floor the arrangement is much more simple than on the basement, there being only two rooms, communicating by folding or sliding doors, and the hall or passage, which likewise contains the staircase. These rooms, called the dining and drawingrooms, are, generally speaking, only used for company; the family usually living in the basement, as before observed. On the next, and all the upper floors, the arrangement is the same as on the basement; that is, there are only two rooms, a front and back bed-room, with closets in each.

Such is the arrangement of one private house, and the same description will apply to five hundred of them; the same plan being almost invariably adhered to, and varying little throughout the whole city, save in the dimensions of the rooms, and perhaps a few inches in the height of the stories.

In the elevations of the houses in New York there is considerable apparent variety, but it consists solely in a little difference in height, and sometimes in the size of the windows. The doorcase to the principal floor, which is always four or five feet above the street, is, in the better and middling class of houses, decorated with two columns, either triglyphed or voluted. The proportions of these columns are as various as are the builders, each having a proportion of his own; the triglyphed from seven to twelve diameters high, and the voluted from ten to eighteen: yet each are pure Greek. The Greek mania here is at its height, as you may infer from the fact that every thing is a Greek temple, from the privies in the back court, through the various grades of prison, theatre, church, custom-house, and state-house. There being no taxes here upon windows, each door has side-lights, as well as a fan-light; so that the hall is as well lighted as any room in the house. The bricks of which the front is built are painted of a glaring red; while the doorcase, window sills, and lintels, or supercilia, are of white marble: the contrast to an American is very pleasing; though, doubtless, few Europeans will fully sympathise with him in this respect.

I had intended to send you an elevation to accompany the plan (*fig.* 210.); but I neglected to prepare it till it was too late; for which I must apologise, and promise to be less remiss in future. I will, if possible, send it with my next. The roofs are now generally covered with tin, as lead will not stand when exposed to the great difference of temperature which occurs here between the winter and summer; it is about 118°. There are few or no parapets; those that exist being only boards over the cornice, which is also of wood, and generally consists of an entire Greek Doric entablature, nailed on the front of the house; having the gutter formed in the upper surface, and the rain-water pipe, which is likewise of tin, carried down the front of the house. The entablature of each house returns on itself, so as not to overhang the adjoining property; and the decorations, including the mutuli and guttæ, are all painted white, to harmonise with the door-case, &c.

You will think I have drawn no very flattering picture of the architecture of New York; but, like London, there are a very few structures which may command considerable praise; but then, they form the exception, and not the rule.

The New York University is a mountain of white marble and brick, with Italian details, more incongruous than those of Wren's towers of Westminster Abbey; it is more indebted to the woodcutter (Mr. Mason, from London) than any work I have ever seen. In London it would be termed "Carpenter's Gothic;" but even that can give you no idea of its hideous abortions and monstrous absurdities. With such a specimen as this before their eyes, no wonder that the Greek, "the classic and simple Greek," is preferred by the people, who will not be gulled into admiration of any thing so *outré* as this university.

New York, *Dec.* 31. 1834 (received April 17. 1835).

ART. VII. *On an improved Metallic Saddle for the external Doors of Dwelling-Houses.* By ROBERT MALLET, Esq.

THERE are few persons in our rainy and windy climate who are not occasionally annoyed by the blowing in of wet under the bottom parts of their outer doors, particularly in winter, and during stormy weather. From the construction common in outer doors, this inconvenience is felt in every house, from the hut to the palace.

The only attempt I have hitherto seen to prevent it is by means of a hinged or falling weather-board, at the lower edge of the door, which rises when it is opened. But this contrivance is subject to many objections; it cannot be made very light, as, if so, it rattles against the face of the door-sill when the door is shut; it must run on one or more rollers when the door is opened; and then it marks the floor, or cuts the oilcloth, if there happen to be one beneath it, besides making a disagreeable noise when the door is opened or shut; and, *malgré* all this, the thing does not answer the purpose for which it was intended, as in strong winds it always lets the rain come through the hinged joint.

To remedy all this, I propose the following contrivance, which, it seems to me, would be effectual. *Fig.* 211. represents a section of a sill, and part of the bottom of the door, arranged in the way proposed; *a* is the door; *b*, the stone step or sill; *c*, the flags outside; *d*, a brass or cast-iron saddle, cast with certain perforations in it, as shown in its plan in *fig.* 212., and in cross section, nearly at full size, in *fig.* 213.

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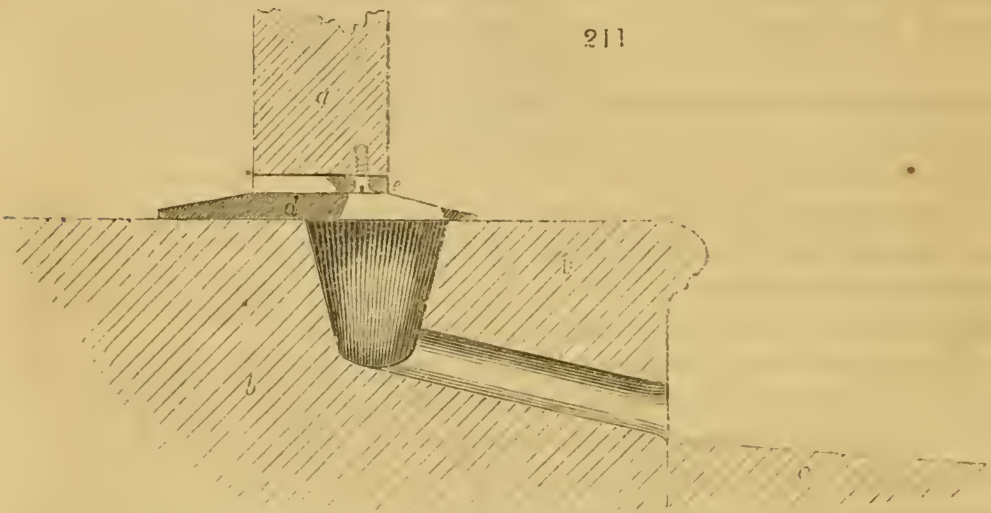

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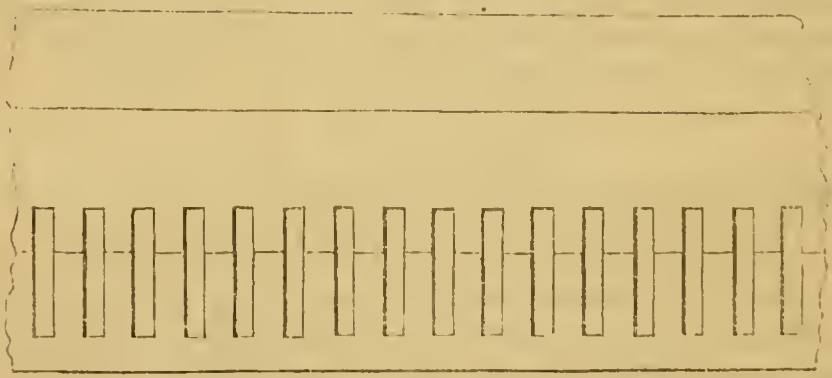

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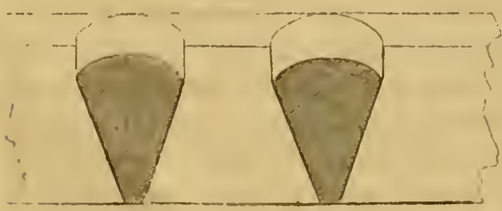

To the outside edge of the bottom of the door is screwed a straight strip of brass (*e*), about one inch wide, and projecting its own thickness (about five sixteenths of an inch) below the bottom of the door. The saddle (*d*) may be either of brass or cast iron (the former is to be preferred), running all the way across the door, and placed, as shown in *fig.* 211., over a deep channel cut likewise all the way across the stone sill. The saddle is secured by screws at intervals, let into lead plugs run into holes in the stone sill, or into oak plugs driven into the holes, and its ends are let into the jambs at each side. The perforations, or parallel slits, in the brass or iron saddle are placed over the channel in the stone sill, and the latter has one or more holes opening outwards upon the flagging from it, to empty it of water.

Now, the outside edge of the door is so placed, with respect to the perforations in the saddle, that it shall overhang them at about the middle of their length, and be so arranged that the saddle and the brass strip shall make a close joint of about three eighths of an inch wide inside the perforations. By this simple arrangement, it is obvious that all the water that either runs down the front of the door, or is driven by the wind against it, will fall off its lower overhanging edge, and so run into the channel beneath, and be carried off.

There can be no difficulty in the execution of this plan to any moderately good workman; but the hinges of the door must be good ones, so as not to sink and make the door bind. Rising hinges, that would not elevate the door more than one eighth of an inch, but that should elevate it to this height nearly at once, or within the first foot of motion in opening the door, would be the best, and of these probably none are better than Redmund's patent chilled cast-iron ones, or Collinge's.

It is hardly necessary to add, that the saddle should be bedded down in oil paint. When any accumulation of dust has been made in the stone channel, it may be removed in dry weather by blowing it out from the front apertures with a pair of common bellows.

Should saddles of this kind be found to answer, perhaps the making of them may put a new source of business in the way of ironmongers, &c.

Dublin, July, 1835.

ART. VIII. *Description of a new Method of forming a Tie to a Roof, where a direct Tie from Wall Plate to Wall Plate cannot be introduced.* By W. COLES, Esq., Architect.

FIG. 214. is a plan which I have found answer well as a tie to a roof, where a direct tie from plate to plate could not be introduced; and, as far as I know, it is original. I introduced it in this neighbourhood in the roof of a cottage, in a case where the walls, having been carried up about 4 ft. above the floor of the attic story, a direct tie across the building would have prevented the communication from one room to the other.

In the figure, a truss on the suspension principle is formed by

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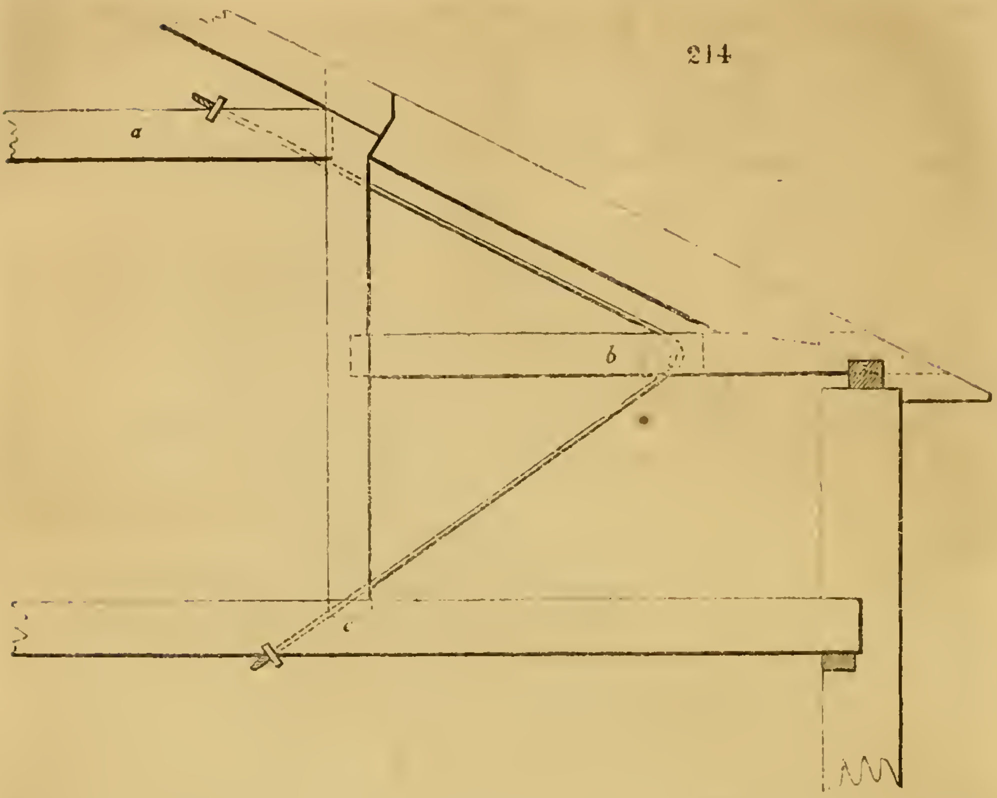

a bar of iron (about three quarters of an inch in diameter), which passes over the collar of the straining beam *a*, through a mortise in the tie *b*, and down through the floor-joist at *c*, and is tightened with a nut and screw at each end.

Kingsgate Street, Winchester, April, 1835.

Art. IX. *A new Method of preventing Chimneys from Smoking, in Situations where the Smoke is liable to be driven down the Chimney by sudden Gusts of Wind.* By Richard Varden, Esq., Architect.

As many readers of the *Architectural Magazine* are interested in the cure of smoky chimneys, perhaps you will insert the following plan, which has occurred to me, for the remedy in certain cases.

Wind entering the upper orifice of a flue is the most frequent cause of this inconvenience, as the ascending column of smoke is overpowered and forced downward, till it is discharged into the apartment. This is found to take place in all exposed situations, during high winds from any quarter; and, where aerial eddies are formed by the obstruction of lofty objects, it occurs whenever the wind blows from a particular point. The many ugly and expensive pots, cowls, &c., often seen on the tops of chimney shafts, show the extent of the evil, and the exertions that have been made to surmount it; but I believe all the contrivances in use are uncertain as to their success, and that though cowls are found to be the most efficacious, they have serious disadvantages: as they cannot be employed in rows without preventing each other from revolving, and so becoming useless; and, from their liability to be taken by puffs of wind in the throat, they occasionally, for a time, increase the evil which they are intended to remedy.

My contrivance is simply this: the top of the shaft is closely covered, and the smoke is allowed to escape only by apertures in the sides, each of which has fitted to it a shutter, hung on a pivot near the top, that will open in consequence of a balance weight attached to it when no wind blows against it, but which is so poised as to close directly when there is, and which will recover itself on the wind ceasing. This is done as shown in *fig.* 215.: *a* is the flue, and *b b* are the side walls; *c* is the cover stone at the top, supported at the angles by the small piers *d d*;

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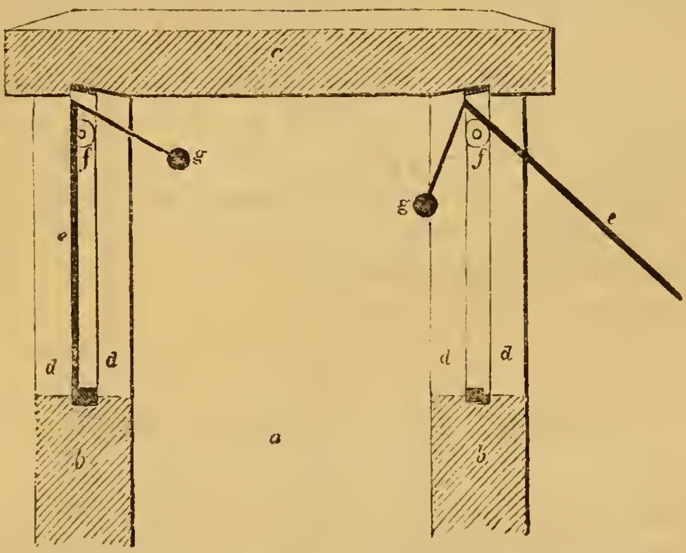

e e are the shutters, hung on the pivots *f f*; and *g g* are the weights to cause the shutters to remain open when the wind does not blow against them. One side is represented open, and the other closed. The shutters are of plate iron, fixed in cast-iron frames; and the whole may be kept for sale in a complete state, and be fixed with little trouble. A single shaft may have four shuttered openings; but those in rows will require but two, and they should be on opposite sides. These openings, it is evident, must always allow of the smoke escaping on one side, and will prevent the possibility of the wind entering the shaft on the other, as it cannot at one time blow in contrary directions in the same place.

This contrivance will be more particularly serviceable in the neighbourhood of lofty hills or of high buildings.

Worcester, August, 1835.

ART. X. *Mode of preventing the Inconvenience which Foot Passengers are liable to by the dripping of Water from Shop Fronts.* By FREDERICK LUSH, Esq., Architect.

As the improvements in shop fronts in the streets throughout London are so rapidly increasing, and as more architectural display of ornament and good taste is daily exhibited, it is a great pity that one nuisance which arises from their construction has long passed unnoticed, and, of course, has not been obviated. Persons, in rainy weather, walking along the streets, are frequently annoyed by the drippings of the water from the tops of the shop fronts; and this inconvenience might be effectually remedied by having a small tin gutter affixed to the lead that lies on the weathering, by means of iron staples driven into the mouldings above the fascia to support it, and by connecting it with a water trunk, placed against the wall of the house, to receive the water, which would by the drain be carried off into the sewer. Another method might be adopted instead of the water trunk, which would be to have two columns, one at each end of the shop sash, with a hollow trunk inserted in each: these columns would thus not only serve as a gutter, but, if the appropriate members of the order were applied, would also add to the improvement of the shop design.

Hoxton, June, 1835.

ART. XI. *An Account of a new Paper for Rooms.* By WILLIAM LAXTON, Esq., Surveyor.

A NEW paper hanging of a splendid description has just been manufactured by Mr. Delereux, the embossed card manufacturer, who has been for many years at a considerable expense in bringing it to perfection. The pattern is embossed; in metals it is remarkably rich, particularly so with a flock ground. I was favoured with a view of a room that has been recently hung with this new paper, at the manufactory in Bunhill Fields, and was very much struck with it: the pattern was embossed in gold, with a dark green flock ground; and the effect produced was magnificent. Another pattern is in imitation of a very richly embroidered shot silk. A specimen of this paper has been submitted to His Majesty, who was very much pleased with its splendid appearance, and no doubt it will be introduced at the New Palace. The price varies from 1*s.* 8*d.* to 2*s.* per yard; and, in metal, from 2*s.* 6*d.* to 3*s.* 6*d.* per yard, according to the pattern.

Oxford Street, September 30. 1835.

Art. XII. *Notice of a Method for supplying Dogs with Water, in large Towns, during the Summer Months.* By Mr. W. J. Short, Surveyor.

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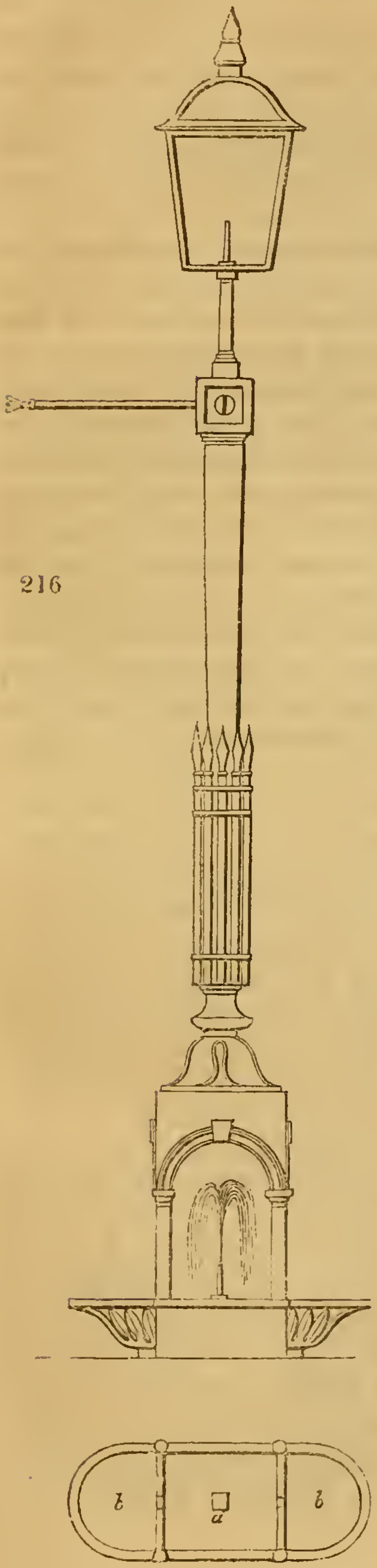

Having read in the newspapers that many persons have been bitten by mad dogs during the hot weather of last summer, it has occurred to me that, if the following plan for supplying them with water were fairly tried, it would do much to prevent the spread of this distressing malady, and be a great addition to the comforts of the poor dogs themselves.

As lamp posts are all cast hollow, a few in every street might be made to contain water in the bottom parts (*fig.* 216. *a*), with a basin on each side for the dogs to drink out of, as shown at *b b;* the water being easily laid on from the main by means of a pipe and cock. To keep up a constant supply, the policeman or other officer on the beat in which the posts are situated should be directed to turn the water on and off as the case might require; or a small jet might be made to play at intervals, as shown in *fig.* 216., which would not only have a pleasing and refreshing effect, but would also insure a constant supply of pure water, without any attendance. The gas pipe, which now runs up the space proposed to contain the water, could be carried through one of the little columns at the corner.

The design, of course, may be much varied: those shown above are adapted for the posts now existing in Regent Street, London, and drawn to a scale of half an inch to a foot.

The experiment would be attended with only a very trifling outlay, which I am sure the inhabitants of the metropolitan parishes would not refuse to pay to obtain so desirable an object.

Clapham, June, 1835.

Art. XIII. *A Description of an improved Gauge for ascertaining the Quanity of Liquor in a Cask, without being at the Trouble of gauging it in the usual Manner.* By William Laxton, Esq.

A gauge, upon a very simple and excellent principle, which has just been introduced in the new gin palaces, has been invented by Mr. Fage, the celebrated hydrometer manufacturer, to show the quantity of liquor, in inches, contained in a cask or vat at any time. The gauge is a vertical glass tube of the same altitude as the cask or vat, and about the size of a large barometer tube, open at both ends. The lower end is securely let into a brass tube about 6 in. long, at right angles, with a valve, or stop-cock; this brass tube is fixed into the lower part of the side of the cask, as near the bottom as can be, similar to a cock. The glass tube is attached to a brass index about 2 in. wide, and of the same height as the glass tube, which is divided into inches; and the number of inches is engraved in figures reading from the bottom to the top. It is evident, when the valve at the foot of the glass tube is open, the liquor in the vat or cask will rise to the same height in the tube as it is in the vat; and, by means of the brass index, that it will show the number of inches of liquor in depth that there are in the vat or cask. It saves considerable labour and trouble to the excise officers: as, by calculating the quantity there is in each inch in depth in the cask when the gauge is first fixed, they can make their entries without the trouble of using the gauging rule.

Art. XIV. *Hints for the Contractors for Gas Lights.* By A. B. C.

Fifty years ago the public felt much annoyance from the lamplighters running, with their ladders and torches, along the streets. Since then the mode of lighting by gas has made the nuisance less, but it has not entirely removed it; and I therefore submit the following, as a further improvement; though, perhaps, it is too simple to meet with immediate attention.

I would place a spiral spring gun, such as are sold in the toy shops, the muzzle of which must be brought in contact with the gas at the bottom of the glass lamp; inside the muzzle of this must be fixed some flints, or sand-paper, through which a steel file should suddenly strike by drawing the trigger, and then the spark of fire would ignite the gas, which must be unlocked at that instant by the same release of the trigger. The gun should extend low enough for the man conveniently to draw the trigger. If the sparks should not ignite the gas, sand-paper, prepared with saltpetre, may be used; or, if necessary, the friction match may be used. If successful in this, no ladder is wanting, and half the space in time would be saved. This plan may be put to the test, in one, two, or ten lamps, for less than 20*s*. Little loss and much gain.

Sept. 18. 1835.

Art. XV. *Brief Description of the Method employed in excavating and removing the Soil of the New Cut and Entrance at the London Docks.* By W. J. S.

Among the many improvements introduced for the purpose of saving manual labour in the construction of public works, the steam-engine has been found the most useful.

At the London Docks the following simple and unexpensive method was employed to great advantage. At the extremity of the proposed new cut a platform was formed over a small dock communicating with the river Thames, so that barges might be moored there to receive the soil from above; and at the end of this platform was erected a high-pressure engine of ten-horse power, turning a large roller, round which a rope worked, and to which iron trucks, or waggons, were attached, and kept constantly travelling along the railway on the inclined plane; a loaded waggon going up to the platform, and an empty one down to the excavators below, at the same time. By this method, on an average, about eight waggonloads of soil, containing together about eleven cubic yards, were carried up and discharged into the barges below every ten minutes, with only the assistance of two men, and a boy to unhook the ropes from the waggons, and turn the soil into the barges.

The excavation was carried on night and day, without intermission; consequently, with the great assistance already described, the whole was completed in a very short time.

In the diagram, *fig.* 217., *a* is the roller turned by the steam-engine; *b*, the empty waggon going down; *c*, the waggon loaded coming up the inclined plane; *d*, the excavator loading a waggon; *e*, an opening in the platform, with a barge underneath to receive the soil from the waggons.

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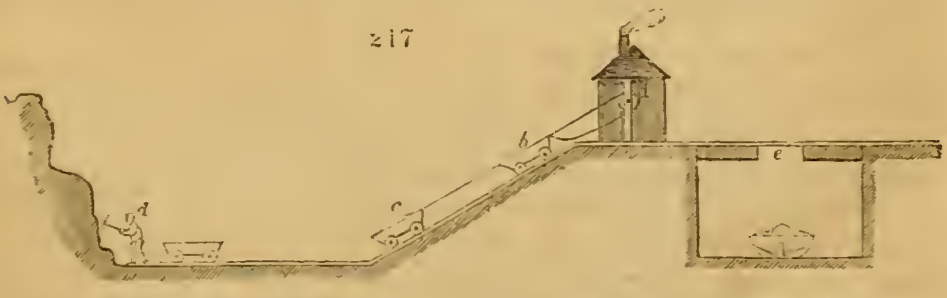

Clapham, March, 1835.

REVIEWS.

Art. I. *An Historical Essay on Architecture.* By the late Thomas Hope. Illustrated from drawings made by him in Italy and Germany. Royal 8vo, 2d edition. London, 1835.

We have perused this work with a considerable degree of satisfaction; and we here intend to give a full account of it to our readers, the proprietor of the work, Henry Thomas Hope, Esq., M. P., the son of the author, having, on our application to him, kindly and liberally given us leave to make very ample extracts. We shall thus have an opportunity of laying before the young architect a connected view of the history of his art, together with some of the most ingenious theories which have hitherto been made public respecting some of the different styles of architecture; and this service will, we trust, be the more acceptable to young men, on account of the high price of the work from which we shall extract them, which price must necessarily prevent many to whom its contents would be highly desirable from becoming its purchasers. Those who can afford to purchase the work will, however, do well to do so, as they will find it beautifully printed, and illustrated by no fewer than ninety-seven engravings (chiefly in outline), admirably executed by the most eminent artists, from the author's drawings. When we take into consideration the number and the beauty of these engravings, and the historical and artistical interest which attaches to them, the work may truly be considered cheap at two guineas.

In the preface we are informed that the author, from his infancy, was always strongly attached to architecture. When scarcely able to hold a pencil, instead of attempting to delineate flowers and landscapes, he delighted in dealing in straight lines; and, becoming a master of his own actions at the early age of eighteen, he hastened, in quest of food for his favourite study, to almost all the different countries where any information on the subject could be expected.

> "Egyptian architecture I went to investigate on the banks of the Nile; Grecian, on the shores of Ionia, Sicily, and the Peloponnesus. Four different times I visited Italy, to render familiar to me all the shades of the infinitely varied styles of building peculiar to that interesting country, from the most rude attempts of the Etruscan, to the last degraded ones of the Lombards. Moorish edifices I examined on the coast of Africa, and among the ruins of Grenada, of Seville, and Cordova. The principle of the Tartar and Persian construction I studied in Turkey, and in Syria. Finally, of the youngest branch of the art, that erroneously called Gothic, I investigated the most approved specimens throughout England, and most of the provinces of France, Germany, Spain, and Portugal.
>
> "During eight years that this research lasted, I willingly encountered, to perfect myself in an art which I studied from mere inclination, and from which I expected nothing beyond the pleasure of understanding it, fatigues, hard-

ships, and even dangers, which would have disheartened most of those who follow it as a lucrative profession, and who build on it their hopes of subsistence and fortune. Soon after my roving life ceased, I determined to add practice to theory." (Preface, p. vi. vii.)

The work now before us, however, it is observed, presents but a brief epitome of the result of the author's studies and investigations, sketched as a relaxation from labours of a nature altogether different: —

"I, who, though of merchant's blood, am not a merchant; who, though dabbling in authorship, rank not among the inspired; who can neither uphold the arts with the hand of a sovereign, nor praise them with the pen of a poet; who have only been able to bestow on a few humble artists the feeble patronage of an humble individual; and who can only, athwart the din of trade, the bustle of politics, and the clamour of self-interest blinded by ignorance, raise in favour of the Fine Arts a feeble voice; have done all I could: but the most general flame may begin in a single spark; and should I succeed in kindling for the arts a purer, a more intense, a more universal love; should I thus be instrumental in promoting in the country a new source of health, wealth, strength, vigour, and patriotism, and nobleness of mind and feeling, most copious and most lasting: in calling forth to the evils awaiting a society whose prosperity borders upon plethora and dissolution, the most powerful preservative; I shall think myself the humble instrument of the greatest good that can be conferred upon humanity; and when comes the hour of death, I shall think I have not lived in vain." (Preface, p. xii. xiii.)

Chap. I. *Introduction.* In all countries and ages, man has found the necessity of a more extended and stationary covering than mere attire. The nature of this was derived from his wants, and from the opportunities which the geographical circumstances in which he was placed afforded him of supplying them. The New Zealand savage digs a hole in the sand, little larger than that which he might require for his grave; the Carib seeks a habitation within the trunk of a decayed tree; and the Tartar, in the central plains of Asia, constructs a tent with the hides of those animals which serve him as food. It was only when men began to remain stationary in eligible situations in point of food, that they constructed mansions of wood, of baked or unbaked clays, or of brick, and finally of porcelain. Some of the Asiatic tribes, descending from their cool heights of Thibet into the burning plains of Hindostan, made habitations in the barren rock, and hence arose the excavations of the Bahar and the Barampooter, on the banks of the Ganges. As population increased, these tribes found it necessary to construct detached dwellings, first of stone, and afterwards, as the increase of population continued, of mud, reeds, and rushes; thus passing from the extreme of imperishable solidity to the contrary extreme of perishable lightness in their habitations, though their temples and their tombs, requiring greater permanence, were constructed of stone.

(*To be continued.*)

Art. II. *A History and Description of the late Houses of Parliament and ancient Palatial Edifices of Westminster, &c.* By John Britton and Edward W. Brayley, Authors of numerous Antiquarian and Topographical Publications, &c. Nos. VII. VIII. and IX. for August, September, and October; 2*s.* each. 8vo. London, 1835.

The embellishments to these numbers are, entrance to the crypt and cloister from the vestibule of St. Stephen's Chapel; cloister court after the fire; Westminster Hall, south-west end, from a window in the east side; plan with measurements of the cloisters, chapel, &c.; oratory, in the cloisters, St. Stephen's Chapel, section of west end, elevation of east end, &c.; view of the lower oratory; window of the crypt, St. Stephen's Chapel, plans, elevations, details; exterior and interior compartments of St. Stephen's Chapel; screen; crypt, western, looking west; capitals in the time of William Rufus; details of cloisters, &c., 2 plates; and several details. These engravings are beautifully executed; and they and the letterpress of the work are, in every respect, worthy of the celebrity of its authors. In No. ix. it is stated, that No. x. will be the last, and will contain, besides the remainder of the letterpress, some additional plates, the number promised to the subscribers in the prospectus (40) having been already given.

Art. III. *The History and Antiquities of the Cathedral Church of Worcester: illustrated by a Series of Engravings of Views, Elevations, Plans, and Details of that Edifice: including an Architectural Description of the Church, and Biographical Anecdotes of the Bishops, and of other eminent Persons connected with the Cathedral.* By John Britton, F.S.A. M.R.S.L., &c. 4to. London, 1835.

The portion of the work to which the above title is attached is only the dedication, and a prefatory essay; the latter explanatory of the causes which have occasioned the delay of the publication, and the former highly and justly complimentary to the "late estimable and highly talented Mr. Thomas Hope," and to the present Henry Thomas Hope, his son, the editor of his father's *Historical Essay on Architecture.*

Art. IV. *An Address to the Commissioners appointed by His Majesty to examine and report on the Designs for the proposed new Houses of Parliament: to Members of Parliament, to Architects, &c.* By J. Britton and E. W. Brayley, the Authors of "A History and Description of the late Houses of Parliament and ancient Palaces of Westminster." Extracted from No. VIII. of that work.

An ample extract from this tract will be of service not only to architects who are competitors on this occasion, but to the profession generally who are in the habit of entering into competition for public buildings: —

"The plan which has been prepared under the directions of the Commissioners of Woods and Forests, for the use of the architects who propose to make designs for the new buildings, does not afford the information which the latter expected and required. Hence many of them have been lately occupied in procuring new measurements, and new surveys of many parts of the premises. Mr. Richardson, who has been in Sir John Soane's office for some years, has made and published a large and very elaborate plan of the whole site, and of the different buildings which cover the ground. This plan will be of great advantage to architects, and will also prove very interesting to statesmen, to antiquaries, and particularly to those commissioners and members of the two Houses, who are desirous of obtaining full information on the position, extent, and arrangements of the various buildings which have occupied this eminently historical spot for centuries.

"From the very slight plan provided by the Government, and a miscellaneous and undigested series of printed particulars, the young, and even the old, architects are to prepare a set of designs for a mass of buildings of a most extensive, important, and commanding nature.

"On the present, as on too many former occasions respecting great public works, there is evidently a want of a sound and wise system of procedure. The beginning wants union and organisation. Not only are the architects, who are desirous of competing for this great prize of honour and reward, subjected to many difficulties and ambiguities, but they are limited to a very insufficient time.

"Can it be possible that this hurry, this excess of expedition, has some secret motive for its basis, and that, as the rumour runs, a certain architect is already chosen, and certain designs are already selected? Let us hope that the highly respectable commissioners will not permit such an act of injustice to be offered either to the profession or to the public. That profession and that public are, however, suspicious: they have been imposed on and trifled with too many times, in the affected show of public competition and impartiality, not to feel some apprehensions on the present occasion; they can neither forget the disgraceful transactions that belong to Buckingham Palace, nor approve the manner in which the new National Gallery has been smuggled into existence, nor altogether of the working out of that design. These things, and others of a like nature, make them regard with jealousy the proceedings of irresponsible advisers. In the present instance, there is an appearance of candour and fairness in the public competition; there are hopes held out, and emulation is roused; but misgivings and doubts occasionally flit across the minds of those who engage in the lottery. Certain commissioners have been named as judges of the proposed designs, but it appears that these gentlemen are not very fully instructed in their duties and powers; and although they are men of unimpeachably high character for private worth, for much knowledge of architecture, and of certain experience, yet it is feared that some of them, having their favourites in the profession, as well as strong partialities for particular styles and classes of building, may not prove strictly impartial umpires. It is also apprehended that other official channels through which the designs are to pass are still less likely to be impartial. Hence the adventurous architect has not only Charybdis and Scylla to dread, but many shoals and quicksands to steer clear of; and he cannot enter on his task of design with "mind at ease," with all the powers of invention and judgment unshackled and unclouded. Under such circumstances, would it not be both prudent and generous for the ministers of the Crown to recommend to His Majesty to authorise the commissioners already appointed to take all these and other relative matters into consideration, and adopt a plan for a fair, deliberative, and judicious *commencement* of the proceedings?

"After the deliberations and resolutions of two Parliamentary Committees, the appointment of five Commissioners, the cooperation of the Commissioners of Woods and Forests, and the professional Surveyors, it might be reasonably inferred that, up to this time, every thing had been done that human foresight and sagacity could suggest. But to prove that this is not the case, we need only particularise a few of the points on which the architects, and even the commissioners themselves, require decisive information, viz. what buildings already standing are to remain, and be incorporated with, or belong to, the new Houses? Are the architects at liberty, or required, to alter the exteriors of the Law Courts, and other buildings, to make up the design? To what extent is the great *Hall* to be used and appropriated? Is it agreed or recommended that the *Cloisters*, and the beautiful remains of *St. Stephen's Chapel* shall be preserved or renovated? May the architects design and recommend the appropriation of a Chapel, either new or restored, as a necessary part of the Parliamentary edifice? Would it not be advisable to make that Chapel also the parish Church of St. Margaret's, Westminster, and take down that trumpery, tasteless incumbrance, the present St. Margaret's Church? May the architect calculate on the removal of any, and what part, of the row of houses on the south side of Bridge Street? and also others on the east side of Abingdon Street, in order to display the northern and southern fronts of the new designs? Is it expedient to take down all the mass of substantial modern buildings recently erected from the designs of Sir John Soane, and now used for offices, libraries, &c.?

"These, and several other important matters should be settled and arranged between the commissioners and the architects, before the latter commence their designs; and which, being clearly defined, will enable them to proceed with more confidence and ease, will ultimately be productive of great economy of time and of money, and be also likely to produce beneficial results to all parties concerned, and to the national character.

"If the preceding remarks be thought by any person to be over-officious, to be uncalled for, or unnecessary, our plea is, that we entertain more than common anxiety for the preservation of the national character and taste in regard to the edifices in question; and are fully aware that the zealous and honourable feelings of many architects, and even their ultimate professional success in life, are involved in a fair and honest decision on this momentous occasion."

ART. V. *Thoughts upon the Style of Architecture to be adopted in Rebuilding the Houses of Parliament.* By Arthur William Hakewill, Author of the "Apology for the Architectural Monstrosities of London," &c. Pamphlet, 8vo. London, 1835. *6d.*

MR. HAKEWILL is an advocate for the classic style; that "style, coeval with the rise and progress of the arts and sciences in Greece and Italy, the faithful companion of painting and sculpture in the progress of those arts to perfection, and ever their most powerful ally; characterised, too, by that same chasteness of feeling, which, like a pure atmosphere, ever encircles their domain; [which] has become so identified with the progress of refinement and civilisation, as to leave no doubt on the minds of the unprejudiced with regard to the propriety of selecting it in this instance as the style of architecture most suited to the intellectual character peculiar to the subject."

In a subsequent page (15.), Mr. Hakewill compares the Gothic style to a weed, and the classic style to a flower; a comparison which we do not think at all in good taste. Estimating the two styles by the quantity of mind displayed in their construction, it cannot be denied that the Gothic style has greatly the advantage; estimating their beauties by their effects on the minds of unprejudiced beholders is not such an easy matter; for there are few who can divest themselves of religious associations when viewing Gothic buildings; or whose prejudices do not lean either to the one style or the other, with reference to art. Almost all the great critics, however, allow that, as church architecture, the Gothic style is unrivalled. The classic style, divested of its ornaments, may be called the universal style; since upright posts, or walls covered by transverse beams, form the prevalent mode of building habitations in all countries in a state of civilisation. The classic style is also of universal application, and a cottage or a bridge may be built in it, as well as a House of Commons or a palace. The Gothic style is unfit either for cottages or bridges, speaking generally; but it might be applied to palaces and civic buildings, though churches and cathedrals are the edifices where it can be displayed in its greatest power. We speak of Gothic architecture, as the mode of building with high pointed arches; if the Gothic be considered as including flat-headed windows and doors, merely because they show certain mouldings over them, then we say that such Gothic is as universally applicable as Grecian; and the question will then lie, not so much between two styles of building, as between two styles of finishing or ornamenting. For our own part, we exceedingly regret that the commissioners did not leave the choice of the style to the competing architects. We should then have seen what Mr. Hakewill's enthusiasm for the classic style would have produced; and that of Mr. Pugin, or some other architect, for the Gothic; and perhaps we should have had an architect of reason, such as Mr. Fowler, who, we do believe, is without prejudice either the one way or the other, producing something original, and at the same time satisfactory; satisfactory, at least, to all who are not the slaves of precedent or prejudice.

Art. VI. *A Letter to A. W. Hakewill, Architect, in Answer to his Reflections on the Style for Rebuilding the Houses of Parliament.* By A. Welby Pugin, Architect. Pamphlet, small 8vo. London, 1835.

Mr. Pugin is as enthusiastic an admirer of the Gothic style as Mr. Hakewill is of classic architecture, and, apparently, with a greater knowledge of the subject. The whole pamphlet would not fill half a dozen of our pages; but it is written in a spirited style, as the following quotation will show: —

"In order to support this exclusive use of what you term the classic style, you heap all kinds of contemptuous epithets on those edifices constructed during the middle ages; but which, allow me to say, will ever remain the pride and glory of the epochs in which they were erected; and, when brought in fair comparison with any other style, must, in the mind of every impartial judge, shine with complete superiority: the grandeur of their masses; the exquisite finish of their details; their bold and scientific construction; the light, and, at the same time, solid, manner in which they are erected; all must contribute to fill the mind of the beholder with admiration, and a profound veneration for the skill and perseverance of the ages in which they were produced. And although you bring forward St. Paul's Cathedral as a proof of the superiority of the other style, yet, without any disrespect to the great talents of Sir Christopher Wren, I have no hesitation in pronouncing St. Paul's as greatly inferior to many of those stupendous cathedrals which will for ever immortalise the architects of the middle ages. And I much question whether Old St. Paul's (before it was deprived of its gigantic spire, its exquisite cloisters and chapter-house, magnificent eastern end and massive nave, so accurately described by Dugdale) did not produce a more striking effect than the present structure: and I feel confident that, were Old St. Paul's in existence in the present day, and the question pending between a restoration or a new and different building in the Roman style, very few, besides yourself, would be found to support so dangerous and destructive a measure.

"I feel confident you speak only as you wish, not as you think, when you state that Gothic architecture is becoming daily more obsolete, an observation which I do not hesitate to say is decidedly false. Allow me to ask any person at all conversant with ancient architecture to look on the erections of fifty years ago, and even much less, in the style then termed Gothic, and many of those in the present day; and will they not answer, that Gothic has made a prodigious stride towards its restoration?"

Mr. Hakewill had alleged that the Gothic style, if employed in the new Houses of Parliament, would not admit of the accompaniments of sculpture and painting, which Mr. Pugin pointedly denies.

"Thus, while the windows of a Gothic edifice may be rendered a glowing picture of almost imperishable materials, the panels of the walls and ceilings may be filled with the most varied subjects; and those who have ever seen the genuine works of that wonderful master, Albert Durer, cannot, for one moment, suppose the Gothic style inimical to the highest exercise of the art of painting, when one of its greatest professors flourished during its perfection, and whose works decorated several of its most beautiful edifices.

"I now come to that portion of your reflections where you apply the simile of weeds to the Gothic edifices of Westminster, impeding the planting of a beautiful flower, *id est*, a Greek temple.

"Till I read this, I did not believe that there was a single member of the architectural profession who would have ventured to speak in disparaging terms of, perhaps, the only buildings in the whole metropolis which are truly admirable.

"Thus, that vast and magnificent structure, the Regal Hall of Westminster, the sumptuous shrine and chapel of Henry VII., and the towering and venerable pile of the Abbey Church, which have ever been regarded as *chefs-d'œuvre* of the styles in which they were erected, and looked upon, by those who have souls to feel their extraordinary beauties, as an inexhaustible source of study and improvement; these buildings you term weeds, impeding the planting of the Greek flower, which you wish to establish. Yes, Sir, they do impede it; for, while such wondrous proof of the consummate skill of the builders of the ages (termed by you barbarous) remain, you will have some difficulty in persuading the country that their vicinity should be disgraced by another of those half-English, half-Pagan erections which have so wofully disfigured the architecture of the last century.

"No, Sir; believe me, the day is passed when such enormities can be perpetrated: a feeling of admiration and respect for the noble works of our forefathers has arisen, which I trust and believe will never be suppressed. It has been discovered, that, in lieu of borrowing our architecture from foreign climes, we possess buildings whose character is more suited to our country and climate, and that, much as classic beauty may be admired in the countries where those styles flourish, still to sacrifice the varied and applicable styles which were employed in our country during the middle ages, for the dry and monotonous temples of Athens, shorn of their principal characteristics of gigantic size and simplicity, to render them at all fit for present purposes, is a folly that is every day growing more glaring; and as errors, when perceived, give hope that they will be amended, I trust fully that Anglo-Greek will shortly cease to exist, except in the buildings erected during the last few years, whose slight constructions give great hopes of their speedy decay, — a result most fervently wished for by yours most truly — *A. Welby Pugin.*"

Art. VII. *Answer to "Thoughts on Rebuilding the Houses of Parliament."* By Benjamin Ferrey, Architect, Author of the "Antiquities of Christ Church, Hants." Pamphlet, small 8vo. London, 1835.

Of the three pamphlets on this subject now before us, this is much the best in point of literary merit; the author arguing the subject, rather than advocating his particular opinions. A large extract from Mr. Ferrey's *Answer* will give the reader a very good idea of Mr. Hakewill's *Thoughts.*

"In a pamphlet lately published, entitled *Thoughts upon the Style of Architecture to be adopted in Rebuilding the Houses of Parliament*, the author has exhibited considerable skill in the playfulness of his pen, much enthusiasm in the advocacy of his opinions, but, I fear, much mistaken zeal for the advancement of architecture. No object of art, or science, can be depreciated, or rendered less worthy of public admiration, by being assailed with unmeasured abuse; and the writer who designates a justly admired class of architecture as 'misplaced ingenuity, distortion, and grimace,' evinces either a most unwarrantable dislike, or a total ignorance of its merits. Whether, therefore, he be affected by distaste or tastelessness, he is alike blamable for employing such unprofessional means of attack. Such blind declamation from a professor constitutes a despotism in matters of taste, by denying to others who differ from him in opinion, that respectability of judgment to which every scientific man is entitled, who adheres to this or that particular style, from a conviction, after deep research, that it merits his consideration. Thus much for the discourtesy, which cavils not, but impugns the taste of so many of his professional brethren. It is readily conceded that much dissatisfaction and regret is felt by the practitioners in Grecian and Roman architecture, that these styles should be excluded from the pale of competition; had the writer in question, partaking of these sentiments, endeavoured to have shown the superior claims of Grecian or Roman architecture from its character of harmony and unity with the adjoining piles in the locality, and thus urged, on professional grounds, the unsuitableness of the styles selected, he would have pursued a legitimate course, though the result might not have been successful. Having, however, resorted to the summary and rash expedient of lauding classic, at the expense of pointed, architecture, by denouncing the merits of the latter without advancing proof, the public will easily discern that, from a prejudiced disposition, he neither seeks the opportunities, nor cares to make himself acquainted with them. The manner and tone in which the enquiry into the propriety of the selected style is conducted, possesses a specious mode of argument, which at first is calculated to induce a belief that all biassed thoughts are dismissed, and that the subject is sought to be clothed with the unerring garb of truth; it is, indeed, surprising, that remarks expressed under the influence of contemplative mind should, in many instances, be coupled with paragraphs so utterly at variance with surrounding facts; that the intelligence capable of arguing on philosophical inference in one case, should reject all the collateral influence in another.

"Here, however, we see the baneful effects of opinions under prejudiced circumstances; and, looking *à priori*, we must expect a tottering structure, built upon such an unsound base. It would be going beyond the intention of these few pages, to do more than prove the fallacious assertions adopted by the writer of *Thoughts upon the Style of Architecture to be adopted in Rebuilding the Houses of Parliament.* 'Those who think, and have the patriotism to wish, that the character of their countrymen may be raised by a judgment which will go forth to surrounding nations, must necessarily feel anxious that the cause of taste, triumphing every where else, should not be sacrificed in England to a desire to perpetuate the Gothic, a style becoming *daily more and more* obsolete, unsuited as it is to the prevailing sentiments of an age so enlightened.' Surely if this be the case, the writer might have spared his pains in the compilation of a pamphlet, to hurl at once into oblivion that which, on his own *ipse dixit*, he triumphantly exclaims is '*becoming* daily *more and more* obsolete.' But how stands the fact? Need I repeat a list of the numerous churches, palaces, seats, and public structures, which 'taste and genius' have erected, to hand down to posterity 'an abstract brief chronicle' of these times? Will it be credited, that the age in which the Parliament Houses are to be reconstructed in Gothic architecture, is the epoch, in which that style is daily 'becoming more and more obsolete;' a period when our literature of all kinds teems with disquisitions, proving and eulogising its beauties; when volumes upon volumes have been, and continue to be, published, and yet the demand for fresh illustrations of its numberless charms continues? This undeniable fact is an illustrative epitome of the times in which we live. But, again, I am told that the Gothic 'is a style of doubtful origin, mute to our sympathies, divested as it is of that ease and purity of sentiment, which so eminently distinguish the arts of the present era.'

This is indeed but a repetition of the same mistaken observations which are so opposed to truth, that astonishment might here be at its height, but that the climax is more forcibly shown in the following extract, which, to the *cognoscenti*, may be considered a rich treat: — 'And the moment so propitious to the developement of talent, already great, having arrived, shall that talent not be allowed to soar to its height, but be doomed to crouch and wither in the groinings, vaultings, tracery, pointed roofs, and flying buttresses of Gothic buildings?'

"Such are the writer's notions of the character of the structures to be erected for our Parliament Houses; such are his remarks on Gothic architecture; and such a responding feeling to his expressed sentiments he vainly expects from the public. . . .

"The writer of *Thoughts, &c.*, has assumed a secondary system of scrutiny, which should ever give place to the primary consideration of architecture, as combined of science and art; and whatever be the production which arises from the expression of design or skill, it is not to be decried, through circumstances of accidental or temporary effect. He may further be assured, that nothing could more effectually tend to the disuse of classic architecture, than the impartial application of his own theory to the indiscriminate usage of that style in this country to general purposes.

"But the fair question at issue is, whether the new Houses of Parliament may be made worthy of national importance in the style to be adopted, or whether classic architecture, in such a situation, would have been better? Had the writer been liberal enough to have admitted some beauties in Gothic architecture, he would, undoubtedly, have urged, on professional grounds, the necessity imposed by good taste of erecting buildings which should be in unison with the locality; and, however wittily he may have set forth the resemblance of the case under the amusing guise of '*a clump of thistles*,' over which, by frequently stumbling in blindness, he seems immoderately sore, the enlightened statesmen, acquainted with the precincts, and free from the film of prejudice, have ever viewed the indigenous plant as worthy of propagation, although not without its thorns!!!

"Had the committee to whom was intrusted the choice of architecture, &c., selected Gothic architecture despite of circumstances which should have led them to have selected Grecian or Roman, then an attempt might justly have been made to deter them from their purpose; but such is not the case; every thing concurred to show the propriety of keeping up the '*vegetable group*,' and we have yet to discover other reasons than those given to induce a hope that their decision may be revoked. . . .

"If Grecian architecture claims nature as her prototype, it is not asserted with less truth that Gothic architecture is founded upon the same charm and principle, to which is added an increased portion of mathematical skill, combined with an endless variety of beauty in its ornaments, of which the germ may be found in the botanical works of nature only.

"Conceiving, then, that the author of *Thoughts upon the Style of Architecture to be adopted in the Rebuilding of the Houses of Parliament* has evinced a bent throughout the system of his reasoning consequent on his native prejudice, which aims at the overthrow of the style, and, by the vehemence of his expressions, shows the inferior estimate he entertains of others' opinions, let the public pause before giving implicit credence to his remarks, and I doubt not 'that the respective beauties and conveniences proper to the Grecian orders in their pure state, or as modified by the Romans and their successors in the Palladian school, will be fully admitted, without a bigoted exclusion of the style we are accustomed to term Gothic; nor ought its merits to be asserted to the disadvantage of classic style; each has its beauties, each has its proportions:' with this conviction, which is recognised and felt by the public, it is somewhat surprising that any one should suffer his dislike to extend so far as to publish such bitter lamentation over a single instance of the application of Gothic architecture to our 'national monuments.'"

Art. VIII. *First Annual Report of the Poor Law Commissioners for England and Wales.* Ordered by the House of Commons to be printed 10th August, 1835. Accompanied by 35 Sheets of *Plans, Elevations, and Sections, illustrative of Eight different Designs for Workhouses, by Order and under the Direction of His Majesty's Poor Law Commissioners.* By Sampson Kempthorne, Architect.

These plans appear to us, from a cursory inspection, excellently arranged; and it is most gratifying to see the attention that has been paid by the architect to the principles of separation and classification, to cleanliness, to ventilation, and to general convenience. Water closets are provided for all the sleeping wards;

and both these and the yard privies are so contrived as to be continually cleansed by passing water through them. All the designs are arranged more or less on the panopticon principle, the master's house being in the centre, or in the focus of whatever may be the form of the plan; the wards, and all such parts of the buildings as require warming, are heated by hot-water pipes or by steam. There are baths, infirmaries, nurseries for children, schools, and, in short, every thing that can be required for health, and for keeping those inmates who are able to work constantly employed. For the aged, the infirm, and for the children during the hours when they are not at the workhouse school, there are gardens to keep in order; and a gardener is kept to direct the labours and operations requisite for that purpose. The produce of the gardens is consumed in the workhouse, or sold for its benefit. Such comfortable establishments under a corrupt system of management, where labour was not constantly enforced on all able to work, might soon create a greater demand for such communities than it would be possible to supply; but, under the vigilant management proposed to be adopted, there will be no temptation for any to enter them that are able to work, and can get employment elsewhere.

Art. IX. *The Cabinet-maker's Sketch-Book of plain and useful Designs.* Vol. I. consisting of Chair and Sofa Work. 4to; 24 Plates. London, 1835. 18*s.*

The designs are modern, very distinctly and clearly lithographed, and the work cannot fail to be of real use to the upholsterer and cabinet-maker. As specimens supplementary to the designs for furniture in our *Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture*, we give an hourglass seat *fig.* 218.; a footstool, *fig.* 219.; a reading-seat, *fig.* 220.; and a circular Ottoman sofa, *fig.* 221. The last, besides its use in the drawingroom, may be made of straw, or, in some countries, of heath, and appropriately placed in the

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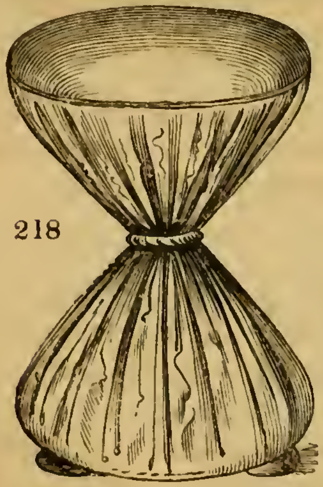

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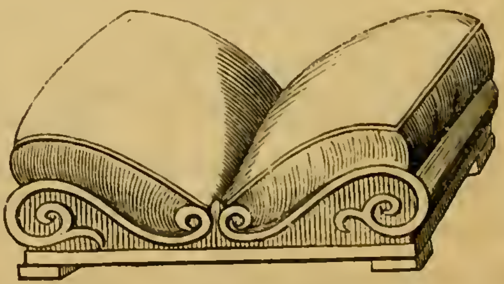

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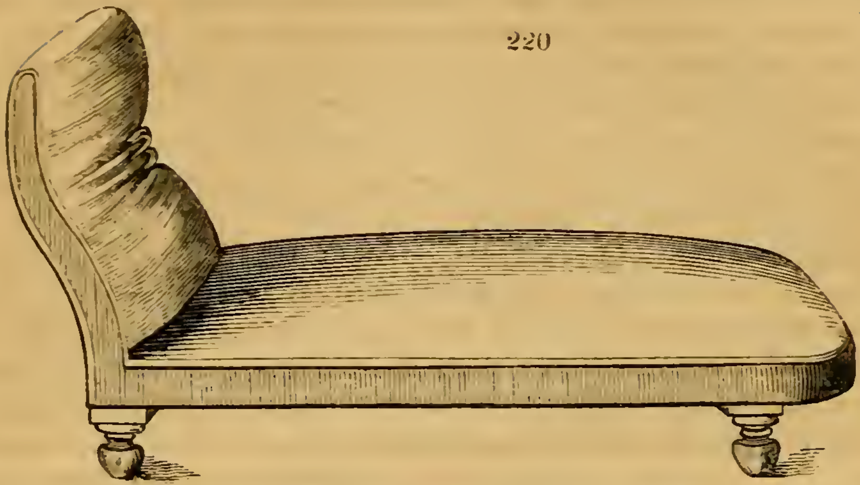

centre of a large rustic summer-house. The reading seat (*fig.* 220.) is by no means elegant in form; but we can assert,

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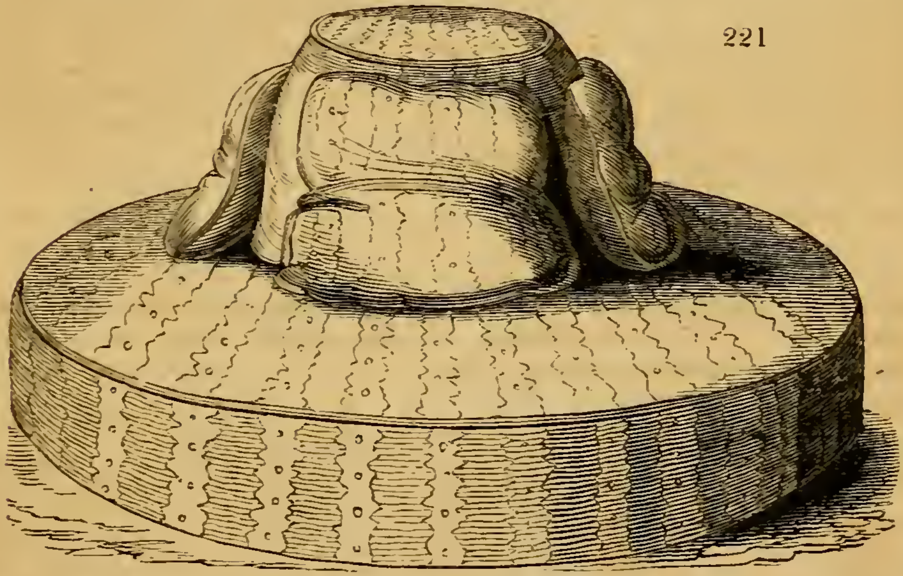

from experience, that it is exceedingly comfortable to sit on; not only the back, but the head, being supported by the peculiar form of the upper part of the end or support for the back.

Art. X. *Laws and Regulations of the Architectural Society, 35. Lincoln's Inn Fields.* Instituted 1831. With a List of its Members, and of the Contributions to the Library, Museum, &c. Pamphlet, small 8vo. London, 1835.

The list consists of, 1. members, 2. amateur members, 3. honorary and corresponding members, 4. student members, and 5. officers and committee. The president is W. B. Clark, F.R.A.S., &c., architect, and the honorary secretary is George Mair, architect.

"The primary objects of this Society are the advancement and diffusion of architectural knowledge, by promoting the intercourse of those engaged in its study; the ultimate desire being to form a British School of Architecture, with the advantages of a library, museum, professorships, and periodical exhibitions; thus to increase the opportunities already afforded for its cultivation by the institutions of the country, and to establish for their successors in the art the means of effectually acquiring a knowledge of those sciences which are essential to the true education of the architect, the present want of which is experienced by students as highly prejudicial to their efforts in attaining a thorough knowledge of the profession.

"All persons having studied the profession of architecture in the office of an architect, for five years, are eligible to become candidates for admission to the Society, on the following form, signed by at least three members, being read at any meeting by the president or chairman: —

"'We, the undersigned, do, from our personal knowledge, recommend Mr. , residing at , having studied the profession of architecture with Mr. , as a proper person to become a member of the Architectural Society.'"

The contributions to the funds, museum, and library of the Architectural Society are considerable. Sir John Soane and his son have given 250*l*. Several of the members a number of casts and models, and almost every one of them has given some books or some engravings. In short, from this pamphlet we should conclude the Architectural Society to be in a thriving condition; and we like it all the better because its president and officers are architects in actual practice. We wish it every success.

ART. XI. *Evolution; or, the Power and Operation of Numbers in the Statement, the Calculation, the Distribution, and the Arrangement of Quantities, Linear, Superficial, and Solid.* By Thomas Smith. 8vo. London, 1835.

THE object of the author is "to win the mind to a pleasing and profitable exercise of its powers"; and, besides, to "treat of those few rules of arithmetic to which, on quitting their schools, gentlemen and professional men can be supposed to have occasion to refer." He also hopes that his book "will prove to be a short and easy introduction to mensuration, surveying, and gauging." The work may be characterised as the philosophy of arithmetic rendered familiar to the general reader; and we therefore very strongly recommend it to the young architect.

ART. XII. *The Chairman and Speaker's Guide; being an Essay towards a brief Digest of the Rules required for the orderly Conduct of a Debate. To which is prefixed an Essay on Public Meetings; Manner of proceeding with regard to them, &c.* By Thomas Smith, Author of "Evolution," "Lessons on Arithmetic," &c. 18mo. London, 1835.

As in the present day, more than in any other, almost every individual is liable to be called on to take some part in a public meeting, either professional or political, there is hardly a young man to whom this little work will not be useful. Every man ought to be able not only to write, but to speak; and every man may become a tolerable proficient in both, if he begin in time.

Art. XIII. *Three Perspective Views taken from the Points specified by the Select Committee on rebuilding the Houses of Parliament, in their Twenty-ninth Resolution, and pointed out on the Lithographic Plan furnished to Architects by the Office of Woods and Forests, of the Parliamentary and other Public Buildings adjacent at Westminster, as they now exist, with the surrounding Scenery.* In outline, printed on drawing-paper. Size of the plate 17 in. by 9½ in. By Thomas Larkins Walker, Architect. In an extra folio wrapper. London, 1835. 5*s.* per set.

These plates are very neatly lithographed, and they cannot fail to be of the greatest service to architects who are competing in the designs of the new Houses of Parliament. They will form a very appropriate accompaniment to the elaborate plan of Mr. Richardson, recommended in our last Number, p. 464.

Art. XIV. *The Organ Screen in York Minster.* Engraved from a drawing by Frederick Hanway Abraham, Architect, of York, and of Keppel Street, London, by Henry Shaw, and printed by M'Queen. Dedicated, by permission, to the Archbishop of York.

This celebrated organ screen is well known to antiquaries as one of the most elaborate works of the kind in existence. It is executed in white freestone, and is 52 ft. long, and 23 ft. 3 in. high. Besides upwards of a hundred small figures, it is ornamented with the statues of fifteen English kings from William the Conqueror to Henry VI., of the natural size. The engraving before us is 21 in. by 2 ft. 2. in.; and it is sufficient commendation of it to state that the engraver is Mr. Shaw. Mr. Abraham's merits as a draughtsman are well known to be of the first-rate order; and, in short, a more beautiful specimen of art than that now before us is nowhere to be found.

Art. XV. *Literary Notices.*

Twenty-one Views, Plans, and Elevations of the Buildings in the Royal Gardens at Kew, selected from the work published in 1763, by Sir William Chambers, architect to the king, has just been published, price 21*s.*

The Transactions of the Institution of Civil Engineers is preparing for publication, in demy quarto, about 350 pages of letterpress, and from fifteen to twenty very neatly engraved plates. Price from one guinea to one guinea and a half.

The Institution of Civil Engineers in London was established under the presidentship of the late Thomas Telford, Esq., in January, 1818, and received His Majesty's charter of incorporation in June, 1828. The objects of the Institution are, the acquirement of professional knowledge, and the advancement of mechanical philosophy; which objects are principally promoted by weekly meetings and conversations during the session, and by collecting from contributors essays on engineering subjects, and practical accounts and drawings of public works.

The Institution consists of members, corresponding members, associates, and honorary members. Those who reside in or near London have the advantage of attending the meetings of the Institution, from which corresponding members are, by their distance, debarred. In order, therefore, to impart to absent members the benefits of the Institution, and to extend the circle of its utility, a selection has been made, from its valuable collection of communications, of papers and drawings on such subjects as may at this period be acceptable to the profession, and to those who take an interest in the art; and this selection it is now proposed to embody in a volume of transactions.

The work will be printed in the best manner, with a new type, and upon superior paper; the plates, from elaborate drawings, will be accurately and very neatly engraved by Gladwin, and others equally eminent in mechanical engraving; and the volume will be published in December of this year.

A Practical Treatise on Locomotive Engines upon Railways is preparing for publication, in octavo, with plates. Price 12*s*.

This work is intended to show the construction, the mode of acting, and the effect of those engines in conveying heavy loads; to give the means of ascertaining, on a view of the machine, the velocity with which it will draw a given load, and the results it will produce under various circumstances and in different localities; to fix the proportions which are to be adopted in the construction of an engine, to make it answer any intended purpose; to show the quantity of fuel and water it will require, &c.; founded upon a great many new experiments made on a large scale, in a daily practice on the Liverpool and Manchester railway, with many different engines and considerable trains of carriages: to which is added an appendix showing the expense of conveying goods, by means of locomotives, on railroads. By the Chev. F. M. Guyonneau de Pambour, formerly a student of the Ecole Polytechnique, and late of the Royal Artillery, on the staff in the French service, and knight of the Royal order of the Légion d'Honneur, &c., during a residence in England for scientific purposes.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

On the Expansibility of different Kinds of Stone. By Mr. Alex. J. Adie, Civil Engineer. — " This paper contains the results of an extensive series of experiments made upon different kinds of stone, as well as upon iron and upon brick, porcelain, and other artificial substances. The instrument employed was a pyrometer, of a simple construction, capable of determining quantities not greater than $\frac{1}{30,000}$ of an inch. The length of the substances generally employed was 23 inches. The general result of these experiments is, that the ordinary building materials of stone expand but very little differently from cast iron, and that, consequently, the mixture of those materials in edifices is not injurious to their durability. The experiments from which the expansibility of the substances was numerically determined were made between the limits of ordinary atmospheric temperature and that of 212°; steam being introduced for that purpose between the double casing of the instrument. The following results were obtained for the fractional expansion of the length, for a change of temperature of 180° Fahr.: —

Table of the Expansion of Stone, &c.

	Dec. of length of 180° Fahr.
1. Roman cement -	·0014349
2. Sicilian white marble	·00110411
3. Carrara marble -	·0006539
4. Sandstone from the Liver Rock of Craigleith Quarry - -	·0011743
5. Cast iron, from a rod cut from a bar cast 2 in. square - -	·00114676
6. Cast iron, from a rod cast half an inch square	·001102166
7. Slate from Penrhyn Quarry, Wales - -	·0010376
8. Peterhead red granite	·0008968
9. Arbroath pavement -	·0008985
10. Caithness pavement	.0008947
11. Greenstone from Ratho	·0008089
12. Aberdeen grey granite	·00078943
13. Best stock brick -	·0005502
14. Fire brick · -	·0004928
15. Stalk of a Dutch tobacco-pipe - -	·0004573
16. Round rod of Wedgewood ware (11 in. long)	·00045294
17. Black marble, from Galway, Ireland -	·00044519

(*Proceedings of the Royal Society of Edinburgh. Jameson's Edin. New Phil. Journ.*, vol. xix. p. 207.)

ART. II. *Domestic Notices.*

ENGLAND.

A MONUMENT to the Memory of the late eminent Engineer, Thomas Telford, Esq., F.R.S.L. & E., &c., is proposed to be erected in Westminster Abbey; Subscriptions to the amount of 1100*l.* for which were received previously to the 15th of August last. Subscriptions are received by Messrs. Herries and Co., Bankers, London; James Hope, Esq., W. S., of Edinburgh; J. Gibb, Esq., of Aberdeen.

New Houses of Parliament. — Dr. Reid of Edinburgh, who has paid so much attention to the propagation of sound in rooms, has been to London, at the instance of the Committee for the rebuilding of the Houses of Parliament; a circumstance which, we think, does that body great credit. If you could induce the doctor to give you some information on this subject for the *Architectural Magazine,* I am sure it would be of great benefit to architects, who, judging from some of the new churches lately erected, know very little about the matter. If you find a church where the hearing is good in every part, and another where you cannot hear at all in several positions, and take an architect to both, and ask him what would be the effect of a speaker's voice placed in a certain position, will he be able, *à priori*, to tell you? If you prove to him, that in the one church you hear every where very well, and in certain parts of another very ill, will he be able to tell you, *à posteriori*, the reasons? I fear not; at any rate, I have never met with an architect who could. — *Henry Thomas Browne. London, Sept.* 1835.

New Chapel. — A very handsome dissenters' chapel, in the Gothic style, is about to be erected in the Regent's Park, from the designs and under the superintendence of J. H. Taylor, Esq., architect. — *Amicus.*

Gloucestershire. —Your correspondent, Mr. Sopwith, the author of *A Treatise on Isometrical Projection*, and various other useful and ingenious works, has just made a complete survey of the Forest of Dean, both on and under the surface of the earth, for government. Perhaps the whole world does not furnish a more agreeable field for professional employment. As regards forest scenery, it greatly exceeds the New Forest, in Hampshire. Its geology is very interesting, being a perfect basin, and the outcrop of the strata being traceable all round, for a compass of eight or ten miles in diameter. — *H. B. Coleford, Forest of Dean, Sept.* 27. 1835.

IRELAND.

The Castlereagh new Meeting House, near Belfast, was opened in August last, and the following account of it is from the *Belfast News-Letter* of Aug. 25. 1835: — "The first stone of the new Meeting House was laid in June, 1834, and the building was designed and erected under the superintendence of John Miller, Esq., architect. A critique on its merits has been published in a contemporary journal; and though we agree with the writer in almost every particular, yet we think it is evident that the proportions of the composition of the edifice are rather the effect of overruling circumstances than of the architect's deliberate choice; and his success should not be measured so much by the abstract merits of what he has accomplished, as by a due consideration of the difficulties which he has had to combat in the execution of his plans. For instance, in our eye the circular belfry exhibits a proof of limited funds in its apparently limited height as an architectural object, though the ordinary spectator will not take into account the circumstances alluded to; nor should he be called on to do so, for he is to judge of it as it is; but the judicious critic will at once admit these circumstances in extenuation of any defects which may be discovered; and hence he will appreciate the resources of the architect who has left the marks of a master hand on all parts of the building, embracing no little originality and invention in the outline, with equal boldness, and vigorously effective, though plain, detail. What is most extraordinary and unusual, the façade is pierced by only one opening, a door of Herculean dimensions, placed between the attached columns, which are raised on a podium or plinth, the deep recesses of which contribute materially to enhance the picturesque effect of the whole, thereby producing, not only a fine degree of chiaroscuro, but great perspective variety and force. The flanks have doors of smaller dimensions, with exceedingly deep plain lintels, so as partially to correspond with the centre. The same taste is conspicuous throughout the interior, which is plain, but effective. The original disposition of the plan is highly convenient for an auditory, as it allows a full view of the minister from every seat. The collocation of the columns and pilasters determines the situation of the gallery, under which the ceiling is quite novel, having beams crossing from column to wall, and between which are concave convex panels, of quite an unusual form, the beams projecting beyond the columns, and forming a support to additional pews round the house. The principal ceiling is subdivided by beams, having plain mouldings, connecting the whole into one harmonious figure. We cannot conclude without a passing remark on the pulpit, which appears to have been carefully handled in the execution, being a specimen of beautiful cabinet-work, the wood of which has been chosen with much good taste, as it is richly mottled mahogany, not the usual curled wood so much in use for furniture. In fact, the execution has done every justice to the architect's design, which is quite unique, being a complete circle, one half of which stands out from the wall, the other half within a semicircular recess in the wall, having a domical top. The internal fitting up of the pulpit looks well; and the substitution of a large easy chair in the centre, for the minister, is a good change from the old fixed seat. It struck us that there is a little baldness in the blank space above the pulpit, on each side of the semicircular recess, which, if we might venture an architectural hint to Mr. Miller, who stands so high in his profession, would be improved by a handsome panel, enclosing a marble slab, having the Commandments inscribed on one side, and the Lord's Prayer on the other; or, possibly, scripture texts might be substituted. These embellishments are of a higher order than mere ornaments, and to say that they are so many helps to devotion, would, perchance, offend Presbyterian austerity; but, viewing them in the light of innocent symbols, we have yet to learn that such decorations are at all incompatible with the discipline of our Scottish Church."

We have written to Mr. Miller to request the favour of a plan of this Meeting House, as we are equally desirous of laying some designs for this class before our readers, as we are of publishing plans of churches. — *Cond.*

ART. III. *Retrospective Criticism.*

LITERARY Composition of Architects and Surveyors. (p. 470.)—I have just read the article signed A Solicitor (p. 470.), and am much surprised by the statement made in it respecting the literary composition of architects. The greater part of them having received a liberal education, it is by no means probable that they would commit errors either in grammar or syntax, as A Solicitor insinuates; but I presume that the "architects," whom your correspondent states he "has had a good deal to do with," have about as much claim to the title as the match-seller who styled himself a "timber merchant." It is rather ludicrous to hear A Solicitor complaining of the "jargon" of our profession; and were his plan adopted, of explaining technical terms by means of sketches, I think it is more than probable that the solicitors would require more draughtsmen than the architects. Your correspondent appears to know very little of the manner in which young architects employ their leisure time, since he assumes that it is all taken up in copying drawings; and when he advises them to study grammar and syntax, he appears to forget, that, were this advice addressed to the young men of his own profession, it would be more applicable; for the generality of young architects receive a much better education than attorneys' clerks. His attempt at a sneer is unworthy of notice; but I will tell Mr. Solicitor, that had he remembered the advice, *Ne sutor ultra crepidam*, and attended to his own profession, instead of attacking imaginary defects in another, it would, perhaps, have been of more advantage to himself, his clients (if he have any), and to the readers of this Magazine. — *G. B. W. Oct.* 1. 1835.

Projection, by T. Sopwith, &c. (p. 211.) — "Can three sides of a right-angled prism, orthographically represented, be seen in the projection, if one side is represented as a true square, or as a right-angled parallelogram?" To some readers, the above query, which appears in p. 211., may require explanation: it, together with the remarks appended to it, forms a continuation, and an attempted defence, of a criticism on my *Treatise on Isometrical Drawing*, which appeared, a few months ago, under the anonymous signature of J. R. (p. 46.) On perusing that criticism, I perceived that some of the statements in it were very incorrect; and, attributing them to the inexperience of the writer (who, with laudable discretion, conceals his name), I corrected his errors by a plain and simple explanation. (p. 142.) That explanation was based on true geometrical principles; and I confidently refer to every geometrical reader, whether it does not fully refute the charge of "want of principle," which J. R. has alleged against certain diagrams * contained in my book. If that writer had possessed a common share of candour, he would either have rebutted the arguments it contains, or come forth from his hiding hole, and avowed the error into which he had fallen.

That J. R.'s charge does me great injustice; that his communications on the subject are replete with errors; that his observations are calculated to mislead your readers; and that he is very imperfectly acquainted with the nature of projection, will appear from the following observations, and from the able paper which Mr. Nicholson has contributed, "to prevent the dissemination of wrong principles."

"All those," says J. R., "who have a knowledge of perspective and of orthographical projection, are aware that orthographical projection is projected by parallel rays, which are all *perpendicular* to the plane." Such is not the case; for there exists a difference of opinion on the subject. A late and highly respectable authority, Mr. Bradley, in his *Treatise on Practical Geometry and Linear Perspective*, treats projection by parallel rays, which are all *oblique* to the plane, as orthographical projection. According to this authority, which J. R. may refute if he can, the diagrams, which he condemns for "want of principle," are true orthographical projections; but whether or not they are correctly termed orthographical is not material to the question in dispute; which is, are they correct in geometrical principle? Not only is the mode of projection used in these diagrams treated of by Mr. Bradley as an orthographic projection, but he even recommends it, for some purposes, as superior to the projection formed by rays perpendicular to the plane; which latter seems to be the only kind of parallel projection that has fallen within the compass of J. R.'s experience.

So far, however, from making a candid acknowledgement of error, J. R. next appears, not in the small print of "Retrospective Criticism," but blazoned forth on the fair and ample pages of the *Architectural Magazine*, in the stately form of an article on "Perspective." In this article he has made free use of my name in that gentlemanly manner in which anonymous writers peculiarly excel; though he prudently abstains from any attempt to answer the arguments contained in my last communication. He now considers it "necessary to be thus verbose, in order to obviate any mistake" (how candid!) "which might have arisen from a laconic description." J. R.'s former paper was written "for the information of the geometrical student." Would it not have been candid in J. R. to state whether he had, or had not, fallen into "any mistake"? Or could he not have referred the "student" to p. 142., where the "mistakes" are fully exposed? It is surprising how great a difference of opinion may happen to exist on the same subject. What J. R. terms the "mistakes of a laconic description," I am led to consider the blunders of egregious ignorance.

On the "verbose" and amended exposition of J. R.'s opinions (p. 211.), I beg, in justice to your readers and to myself, to offer a few remarks.

The query at the head of J. R.'s paper, with the remarks which follow it, seem to imply that I had treated the diagrams complained of as orthographical projections. Such is not the case. Speaking of ordinary orthographical projection, I referred to these drawings as "two other modes of projection." I stated the obvious fact, that they both exhibit an orthographical view, or elevation, of the front side; and, in explaining the construction of such drawings, I said that "the orthographical projection of the front being completed," and then proceeded to show how the other sides were to be drawn, by a different process. The expression, therefore, of a "right-angled prism *orthographically* represented," as applied to these drawings, is a virtual misstatement of the subject in dispute, under cover of which J. R. vainly attempts to escape from the position in which my former exposure (p. 142.) of his erroneous criticism has placed him; and in which, unless he cultivate a better knowledge of the subject, he is likely to remain.

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* Figs. 4, 5. 7, 8. 10. and 11. of Plate XVII., and figs. 1. and 2. of Plate XXIV.

According to J. R.'s views, all those who answer the query at the head of his paper in the affirmative are blockheads. (p. 211.) I have shown that a difference of opinion exists as to the precise meaning of "orthographical" projection. If J. R.'s definition is correct, the query is just as sensible as if he had asked whether two and two make four; for, under the condition of the rays falling perpendicularly on the plane, it is self-evident that it must be answered in the negative. It may be observed, that the introduction of the word "orthographically" renders the query altogether inapplicable to the subject in dispute; and that, according to Mr. Bradley's view of the subject, the said query must be answered in the affirmative. Whether the diagrams are projected orthographically is not the subject in dispute; J. R. contends that they are false in principle, and that by "no mode of projection whatever" can figures be so represented. Whether oblique parallel projection be orthographical or not, the principle on which these drawings are projected is plain and obvious, and J. R.'s charge, of "want of principle," is clearly shown to be false.

The correctness of the principle by which the diagrams in question are drawn is confirmed by the fact of its existing in nature, and being deduced from the laws of nature, as exemplified in shadows. Its practical utility is evident, from the great ease and simplicity of its application to mechanical drawings; and, as regards its being true in principle, I am confirmed by the high authority of Mr. Bradley, Mr. Nicholson, Simonin, and other writers, whose united authorities form a powerful and decisive contradiction to the ignorant and unsupported assertion by which my anonymous assailant has endeavoured to injure the character of my book.

I can scarcely conceive that any writer would wilfully misstate the expressions of another; but certain it is, that the postscript of J. R.'s paper on Perspective (p. 213.) does contain a very palpable misrepresentation of my former communication. I said, in that paper (p. 142.), that "the shadows of the wires (i. e. a wire model of a house), falling on a plane perpendicular to the rays, would exhibit the orthographical projection of the house; and the same shadow, falling on a *vertical* plane, parallel to the front of the house, would exhibit the parallel projection of the house. In the latter case, it is evident that the front of the house would be geometrically represented; and that more or less of one or two adjoining sides would be shown, according to the greater or less obliquity of the rays of light; or, what is simpler still, let the wire model of a cube be held in the sunshine, so that its shadow may fall on a sheet of paper parallel to any two opposite surfaces of the cube; in which case, eight of the boundary lines or edges of the cube would be parallel to the plane of projection. The writer of the retrospective criticism (p. 45.) is altogether mistaken, when he states that it is impossible for three faces of a cube to be shown by any mode of projection whatever, if one face is represented geometrically, and the angles of that face are right angles; or, in other words, when the top and bottom horizontal lines of that face are parallel to the plane of projection. In the cases I have shown, the top and bottom horizontal lines are parallel to the plane of projection: one face is represented geometrically; and yet, so far is it from being impossible, under these circumstances, to exhibit three sides of a cube "on principle," it is not only possible, but is effected by the most obvious and simple principle connected with the science of geometry; viz. the representation of the shadow of an object on a plane parallel to one of its sides."

Such is the paragraph complete. Now let the reader judge whether, or not, the following comment is a gross perversion and misstatement of it: —

"We are told," says J. R.'s postscript (p. 213.), "by this gentleman, that the rays from an object are perpendicular to the plane: so far, so good; and then we are directed to hold the model of a wire cube in the sunshine, so that its shadow may fall on a sheet of paper parallel to any two opposite surfaces of the cube; in which case eight of the boundary lines, or edges, of the cube would be parallel to the plane of projection." Now, reader, take this sentence, with the following, and mark the disingenuous author:—"More or less of one or two adjoining sides of a cube would be shown, according to the greater or less obliquity of the rays of light." "If the rays are perpendicular to the plane, and the two faces of a cube parallel to the plane, it is only Mr. Sopwith who can tell how, in this case, we can have the rays oblique to the cube."

It will be observed, that I speak of the shadow of the wire models under two conditions: the first is, that the rays fall perpendicularly on the plane of projection; the second infers no condition as to the direction of the rays, but only that the front of the house shall be parallel to the plane of projection, leaving the rays to fall with greater or less obliquity, as may suit the object of the designer. The conditions, which I describe as connected with the latter case only, J. R. applies to both, and endeavours to hold up to derision a plain and intelligible statement of geometrical matters of fact, which it is quite clear he is not able to understand.

Fig. 105., in p. 213., *is* represented "exactly after the manner of Mr. Sopwith's 'verti-horizontal' figures;" and, notwithstanding J. R.'s total ignorance of the matter, that figure is a correct projection of a cube, on a plane parallel to one of its sides, and, consequently, to eight of its boundary lines, or edges. A wire model of a cube may be held in the sunshine, so that its shadow shall fall line for line on fig. 105.; and thus the very diagram which J. R. exhibits in refutation of this mode of projection may be turned into a tolerably convincing proof of his own want of knowledge on the subject. Perhaps J. R. will soon discover that the sun shines on a wrong principle!

In conclusion, I have found in J. R.'s communications neither the candour nor liberality of an intelligent critic; but the substance of much error, and of very careless, if not wilful, misrepresentations. Notwithstanding the puerile witticism on the shadows of the wire cube, geometrical readers need not be told that the elucidation of projection and perspective, by the doctrine of shadows, is correct in principle, and highly explanatory. Neither J. R., nor any one else, can establish the "want of principle" in the diagrams alluded to; and he must be content to preserve, in his own collection, those drawings, together with his own, as testimonies of his critical incapacity. As to the further objects which he proposes to "bring before my vision," I heartily wish him success. I recommend him to do the best he can; and not to be "too laconic," lest "a mistake might arise." I shall be truly glad to profit by his remarks, content if I am spared the painful task of exposing ignorance and correcting a departure from truth.—*T. Sopwith.*

Comparative Merits of the Hot-Water Systems of Heating, &c. (p. 407.)—Having read the stringent and clever, but somewhat censorious, letter of your correspondent, Censor, "On the comparative Merits of the various Hot-Water Systems," I am desirous to offer a few humble comments upon it. I will, at once, confess that I am one of that numerous "fry," or rather boil, of "circulators," whom he so unceremoniously denounces as alluring the public into all the disquietudes of hot water, under the specious guise of its being a grand specific for "all the ills that *cold* is heir to," but secretly, with no other view than a sordid desire to pour the circulating medium into their own coffers. Having, personally, to complain of the sin of omission, rather than of commission, I shall pass by the uncharitable and illiberal *animus* of this insinuation, in the hope that Censor's sense of justice and love of truth will breathe a milder spirit of denunciation over his future lucubrations. In a writer of so much intelligence, and possessing such evident qualifications for the task he has undertaken, it is matter of great regret, that, with the additional advantage of having the materials around him for strengthening and extending his knowledge of his subject, Censor should have failed to give the public that full and complete view of the hot-water system which the title of his paper pledges him to communicate. In this respect, however, I am sorry to say, he appears to me to have followed the course pursued by all the recent writers on this topic which I have met with; who, one and all, would seem to have taken "a solemn oath of silence" against a particular system of heating by hot water, which, nevertheless, has now been before the public for several years; which has been both extensively and successfully introduced; and which, in the opinion of some persons, goes far to disprove the censures and attacks which, from time to time, have been so unsparingly inflicted (and by none with greater rigour than Censor) on this popular system of warming.

One of Censor's first allegations is, that the "system of heating buildings by hot-water apparatus is altogether inferior to steam and other methods, because the feebleness of its heating power renders it impossible to give that ventilation, in cold weather, which is essential to health; and that the feeble power arises from inability to boil the water, which, in most instances, is far below the boiling point." That so serious a defect as want of adequate heating power is *not* an inherent vice of hot-water apparatus, when rightly constructed and applied, I will endeavour to show by fact, and not assertion. The new Town Hall at Birmingham is warmed by hot-water apparatus; the boiler and heating vessels of which contain 800 gallons of water; and this volume of water can be, and has been, raised by the aid of a single fire, from the mean temperature of 52° to boiling, or 212°, in an hour and a half; the heating surfaces being, at the same time, exposed to the cooling effect of a room with a cubic content of 500,000 ft.: and, further, the heat of the water was kept at a minimum temperature of 200° during a whole day; while the air of this immense room was, at the same time, sustained by the apparatus at a temperature of 55°; the external air ranging from 38° to 43°. Can it, then, be said, that feebleness of heating power is an inherent defect of all hot-water apparatus? With respect to ventilation, in the strict and scientific sense of that word, I presume I need not acquaint Censor that there are few problems of more difficult solution, than that involving ventilation on sound principles; but I will venture to say, that no system of heating possesses so many important aids to ventilation as the hot-water system, when skilfully and properly applied.

The next offence with which Censor charges the system is, that it "does not economise fuel;" and, further, that, "if the heat obtained be compared with the consumption of fuel, it will be found, with the exception of the common open grate, one of the least economical modes of distributing warmth." Here, again, I will offer a practical example in refutation of Censor's dicta. By the use of a hot-water apparatus I have sustained a room 36 ft. long, 23 ft. wide, and 10 ft. 6 in. high, with a cooling surface of glass windows, measuring 100 ft. superficial, at a maximum temperature of 63°, and a minimum of 50° (the external air being 40°), for 48 hours, by the expenditure of one shilling's worth of fuel, which was used during the first 12 hours of the term; and for 15 out of the 48 hours there was no fire at all kept under the boiler. It is true that this trial of the hot-water system was an experimental one, and, therefore, conducted with the needful care and attention, and also with the accuracy of an experiment; but it is equally true that the same apparatus has been in use in the same situation, and for the same purpose, for several years past, and does not consume more than one shilling's worth of fuel in 24 hours (a day and night) in the coldest weather. I feel entitled to contend, therefore, that it is not only incorrect to say that there is no economy of fuel in hot-water apparatus, but I will assert that there is no method of producing artificial heat, for the purpose of warming air, that will attain the object with equal certainty, and with so little labour and expense.

Censor finally sums up the remaining "inconveniences inseparable from the hot-water system," and declares them to be, "under every form, and to whatever use it may be applied," as follows: — "Leakage of pipes," "which must also be frequently of different diameters;" "checked circulation by dipping to pass under doors;" "a necessity, in most cases, of placing the heat-distributing surfaces somewhere close to the walls of the space to be heated;" "weight of water and of tubes on floors;" "furring of pipes by sediment;" "difficulty of repairs;" "*cum multis aliis*," which, "not being hypercritical," he passes over. Now, there can be no doubt that, if the hot-water system, under all and every form whatever, carries "a tail" with so many unsound "joints" in it as are here enumerated, the grand specific cannot much longer be administered, even with the aid of "eager puffing." My antidote for them all, however, shall be "a plain unvarnished tale." One of the largest and most splendid private residences in England, Penrhyn Castle, the seat of G. H. Dawkins Pennant, Esq., is warmed by hot-water apparatus. The great hall alone is 70 ft. long, 50 ft. wide, and 42 ft. high; the keep is 100 ft. high; and the staircases, vestibule, library, chapel, dining-room, &c., are all of corresponding magnitude; and yet there are no pipes whatever employed for the heating surfaces: the whole of the apparatus, which is of great extent and power, is contained in the basement story of the building; and not a drop of water circulates at a higher level, nor beyond the walls of the basement rooms, in which the boilers and hot-water stoves are fixed. Looking, then, "first on that picture, and then on this," who will have the "utter hardihood" to proclaim that "the hot-water system owes much of its celebrity, and much of its extensive use, to the same causes that render Morrison's Pills, or Rowland's Kalydor so famous?" I have only to add, that, as your correspondent, Censor, fights from behind the shield of a *nom de guerre*, I propose to follow so praiseworthy an example; but, whenever he shall think proper to produce the real "Simon Pure," I will drop the mask of — *Hydro-Camine. Bristol, Sept.* 15. 1835.

Buildings in Ireland. — I quite agree with your correspondent, R. V., in his admiration of the church near Kingstown, having been equally struck by the originality and beauty of its style; and I regretted much being unable to make a sketch. I have no recollection of the Gothic building he alludes to, but noticed a very elegant Ionic building, apparently not long finished, near the spot he mentions (St. George's Church): it is the Jesuits' Church, Upper Gardener Street.

I think some of our architects might take many useful hints from the late Irish Houses of Parliament (now used as the Bank of Ireland), the approaches to which, and the planning of the surrounding offices, are exceedingly good.

Some of the new buildings at Cork are in very good taste. The new Sessions House, now nearly completed, from the designs of Mr. Payne, architect, does credit to that gentleman's ability, both as to plan and elevation. The portico is extremely chaste and elegant: it is built of a blue limestone, peculiar, I believe, to Cork, and which is dug from a large quarry close at hand. There is also a remarkably handsome Roman Catholic Chapel, in the Gothic style, now erecting, of the same material. Some of the private houses and villas, which stand on the banks of the river, are worthy of notice; and the Black Rock Castle, built by the corporation, is a most picturesque object. — *Amicus. London, Sept.* 12. 1835.

Street Architecture. — I think you have made a slight mistake in an article on street architecture, in No. II. for April. You mention Mr. Fearon's house, in Bond Street, as displaying dignity of appearance. I apprehend you mean the house occupied by a wine merchant (Lambe, I think, is the name) a few doors southward, which presents a fine elevation; while Mr. Fearon's, above the ground-floor, is plain brick, and the shop front has no particular merit that I can discover. There are many defects in the fronts of the houses in Pall Mall, opposite the Travellers' Club: the tall and slender piers have a very weak and flimsy appearance, especially overhung as they are by an enormous cornice; the doors and windows are also much too narrow. I think there are several superior to those you have named; for instance, the banking house of Messrs. Herries and Farquhar, in St. James's Street; Messrs. Fortnum and Mason's, in Piccadilly; and Messrs. Hancock and Rixon's, in Cockspur Street. — *Id.*

THE

ARCHITECTURAL MAGAZINE.

DECEMBER, 1835.

ORIGINAL COMMUNICATIONS.

Art. I. *Plan, Elevation, Section, &c., with a descriptive Account of the Improvements lately made at the Custom-House, New York.* By William Ross, Esq., Architect at New York.

The whole of this building, which is now in the course of erection in the city of New York, is to be of white marble, and your readers may, therefore, fancy that it must be splendid; but, were they to see it, they would have no hesitation in saying that Bath stone is much to be preferred, as the marble is left rough from the chisel. The value of marble here is chiefly in the fine polish of which it is susceptible; and, when it is not polished, it is no better than any other stone.

The windows in the exterior are in two tiers; they are each 10 ft. high, and 5 ft. wide, and set in a space of 7 ft. 9 in., which is the clear of the pilasters: the latter are 4 ft. 10 in. on the face, and project 3 ft. from the wall. The mode of forming the vaults of the apartments *q q*, in the section, is the same as that employed in forming the ceiling of the rooms next to Pine Street. This mode I shall particularly describe at a future time, as it is peculiarly adapted for London or other shop fronts. The long flight of "shelf-like steps," to the Wall Street front, I proposed to arrange in the same manner as those of the portico of the London University; but this proposition was overruled, as that manner was considered "not to possess dignity enough."

Fig. 222. is the principal plan of the building.

Fig. 223. is a transverse section through the great business-room, on the line A B, *fig.* 222. In this section are seen the vaulted apartments under the principal floor; the galleries (*p p*), supported by trusses; and the apartments (*q q*) in which the papers are to be preserved.

Fig. 224. is a perspective view of the building.

Fig. 226. shows the interior finishing of the two large doors entering to *b* and *g*.

Fig. 225. is the profile of *fig.* 226.

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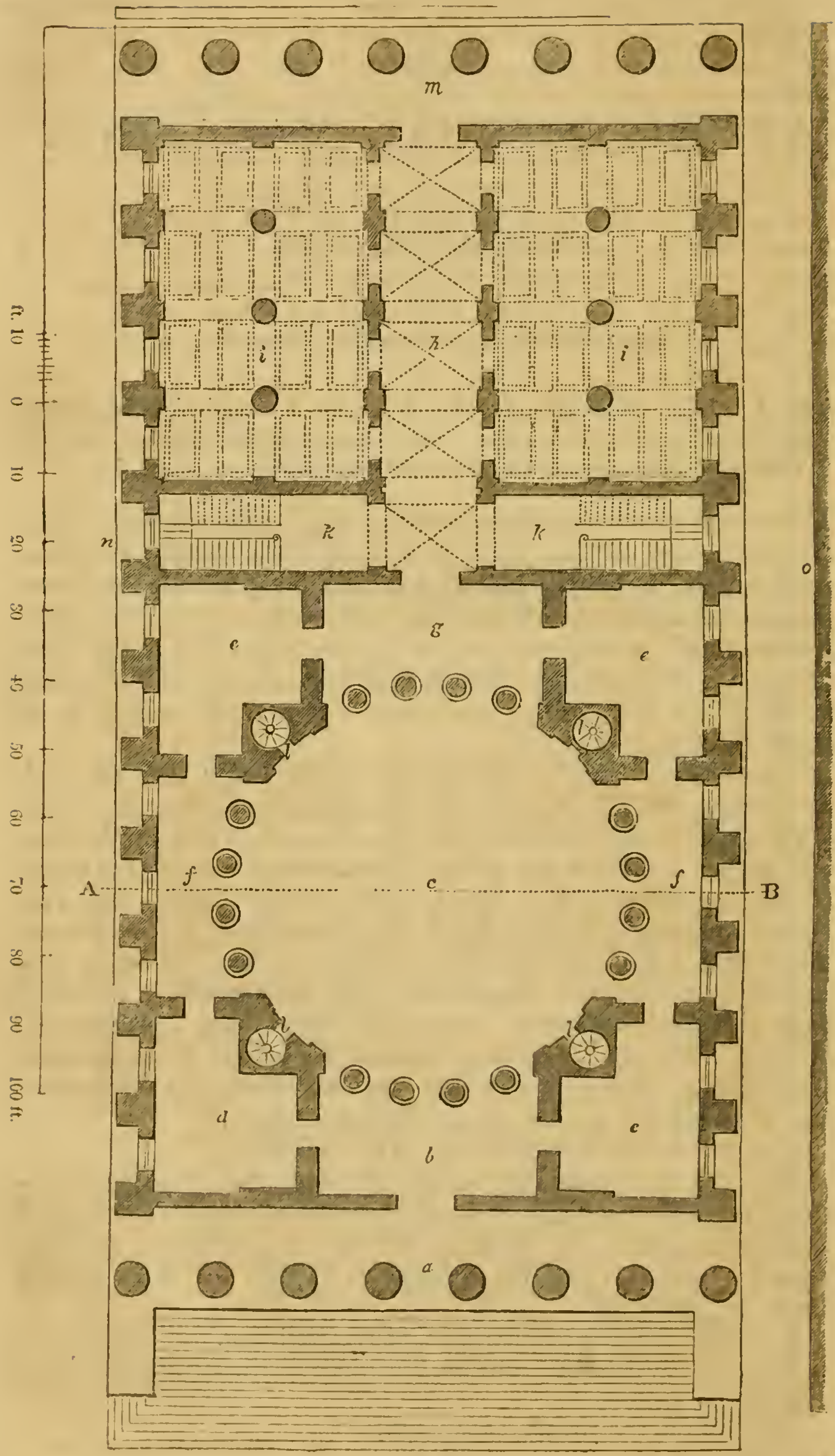
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Fig. 227. shows the tracing round the windows which open into the great business-room, and light the winding staircases.

In the principal plan (*fig.* 222.), *a* is the portico and principal entrance from Wall Street; *b*, the hall or vestibule; *c*, the great business-room; *d*, the collector's private office; *e e e*, three private offices; *f f*, recesses, over each of which there is a gallery supported by trusses, forming a communication between the rooms of the upper floor; *g*, a vestibule uniform with *b*, which leads to the arched corridor *h*; *i i*, offices; and *k k*, principal staircases leading to the floor over these offices. In the large piers of the cupola there are four winding staircases, *l l*, two of which lead to the roof, and the other two to the vaulted garrets under the roof, in which papers are intended to be preserved. The portico *m* forms the entrance from Pine Street; *n* is a sunken area, and the front to Nassau Street; *o* is the United States' Bank.

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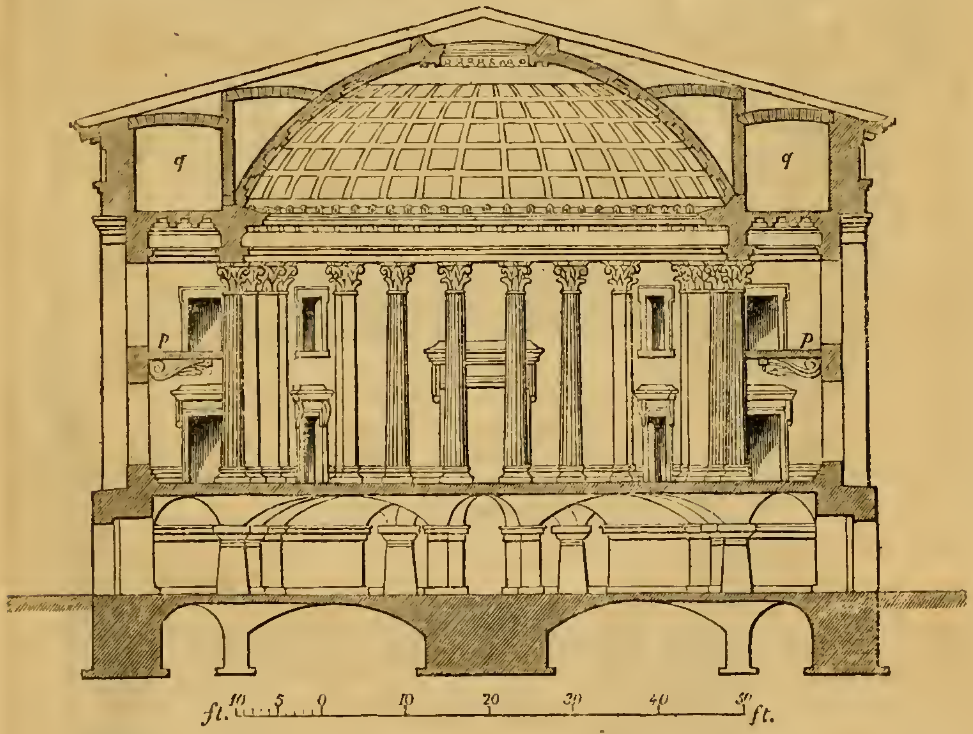

The original design for the Custom-House was selected from a number of competition plans; and, in order that your readers may judge of its merits, I send you the original plan (*fig.* 228.), and the perspective view (*fig.* 229.). In the latter figure, the details, and a part of the basement, are omitted, as they are the same as those of *fig.* 224., and are not necessary to be repeated. In looking over the plan (*fig.* 228.), your readers may, perhaps, be able to perceive what it has puzzled me to find out; namely, the supports and abutments of the double-vaulted cupola, which

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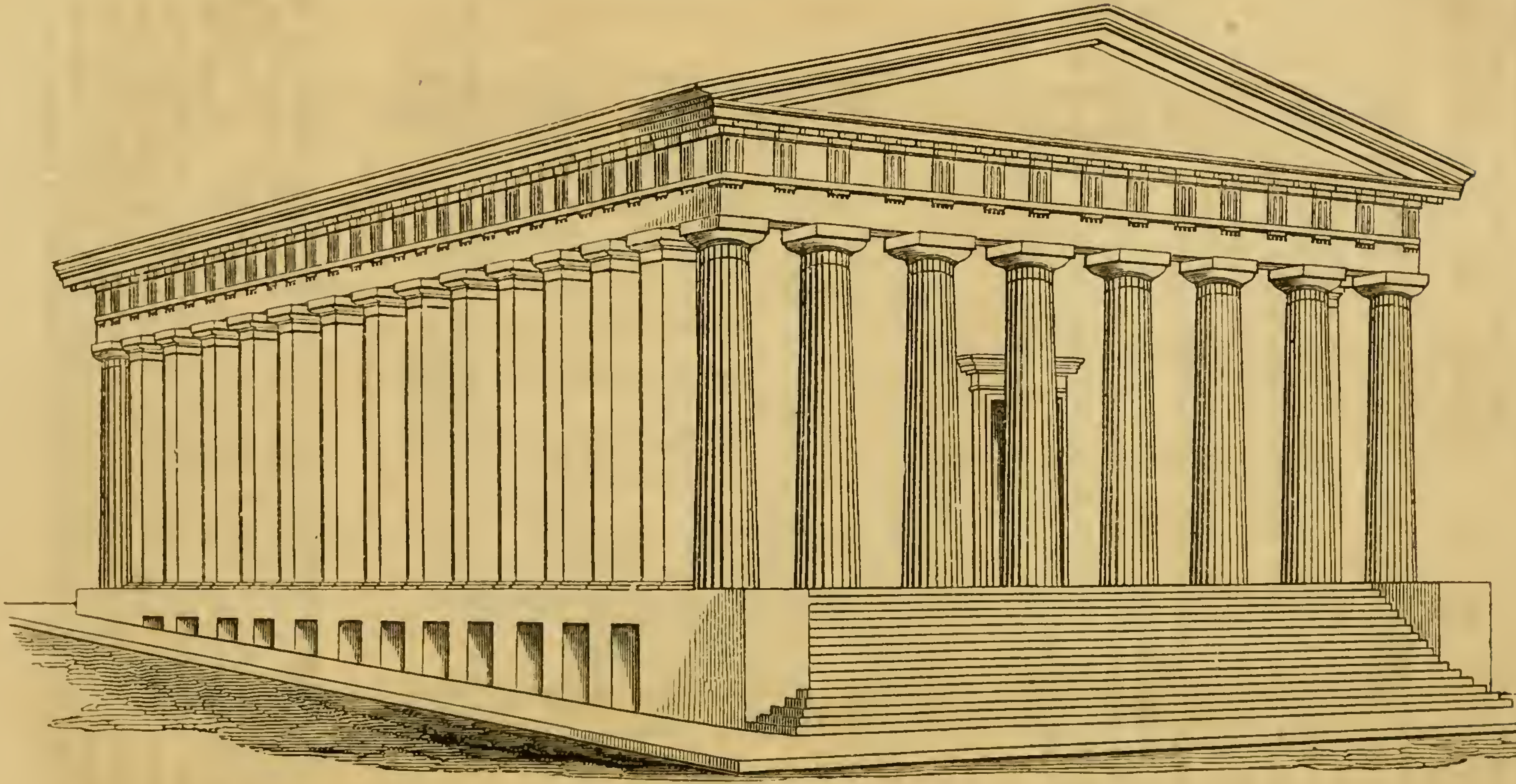

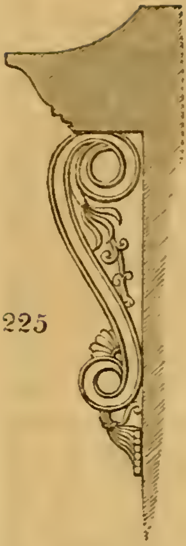

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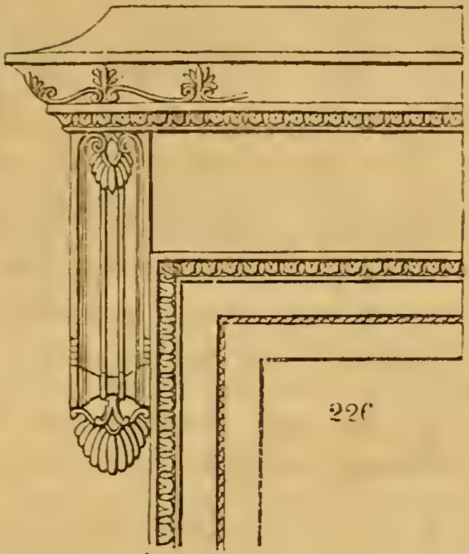

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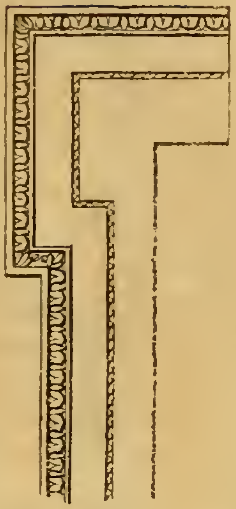

rises so majestically on the ridge of the roof of the temple. (*fig.* 229.) In doing so, it will strike them that the columns, which are so profusely used, cannot, from their situation in straight lines (*r r*), carry any part of the pressure; and, indeed, they were not so intended: they were to carry nothing but their own entablature, the ceiling being arched like that of a church, with transepts; and the hemispherical and spheroidal vaults over the intersection, to rest on 16-inch brick walls (a brick here being 8 in. by 4 in., and by 2½ in.). Your readers will, perhaps, imagine that the designer of this cupola intended the arched ceiling to be formed of timber, and lathed; but this was not the case. There was not an inch of timber to be in the edifice, for the whole was to be of stone, iron, and bricks: even the roof was to have been of marble, and so were to have been the cupola and lantern! A description of this approved design may be seen in the *New York Mirror*, to which I refer your readers.

By the arrangement of the desks on the plan (*fig.* 228.), the greater number of the columns are concealed to about 4 ft. from their bases; and, this being the case, one can hardly conjecture their use at all; for an arched ceiling, with a cupola on the intersection, would not be incapable of a very pleasing effect, unless, indeed, the Parthenic exterior might have spoiled it by its associations in the mind before entering. But what would be said, if double rows of columns were placed between the sides of the nave, choir, and transepts of St. Paul's, London, with their entablatures running longitudinally and transversely from each column, and forming a species of network, with the space between the top of the cornice and the apex of the arch, having the appearance of a naked floor, when looking up through it?

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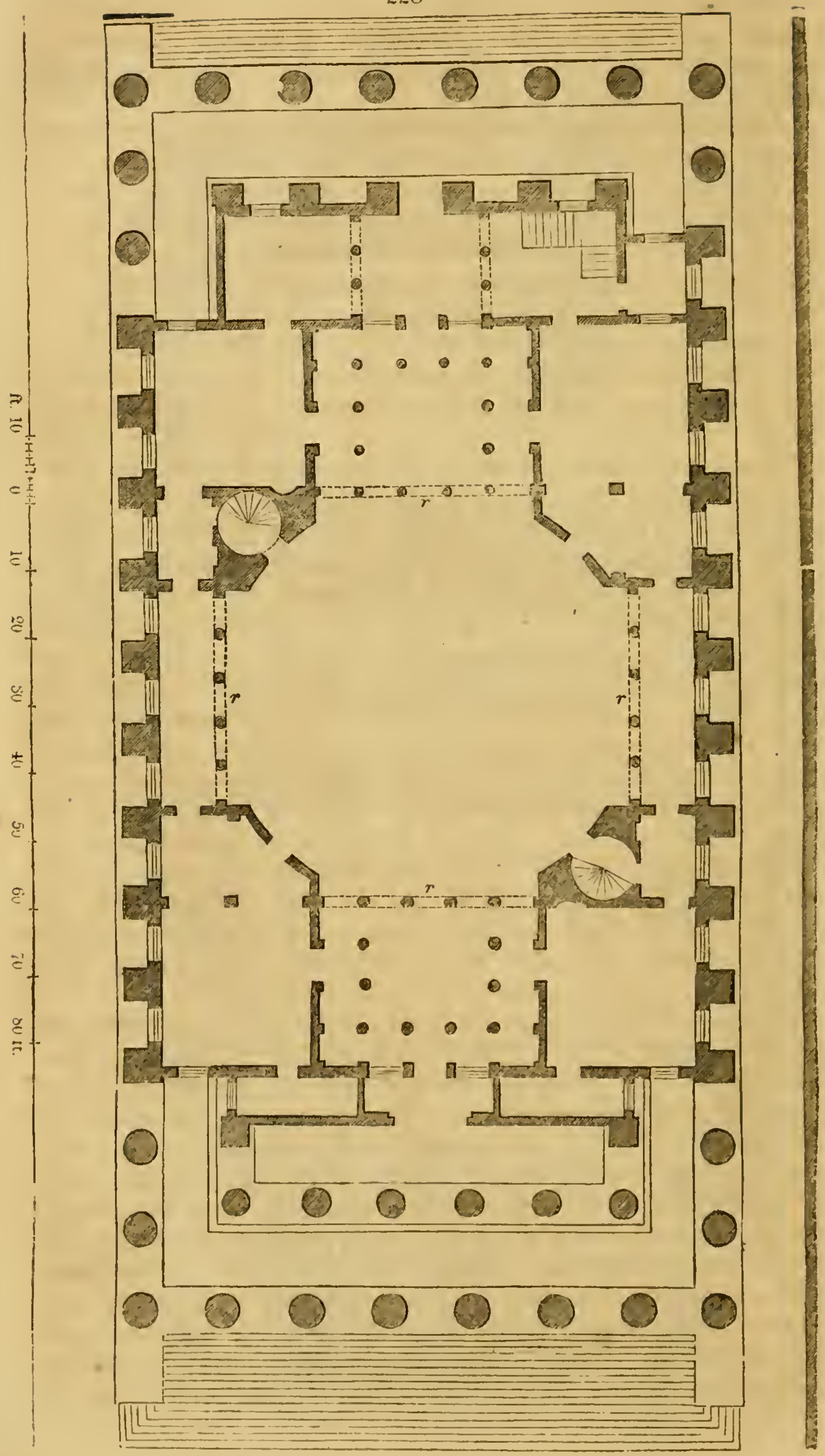

Notwithstanding the length of the foregoing remarks, I have not pointed out one half of the absurdities of this original design; for, like Hogarth's perspective frontispiece, new ones are discovered every time I look at it.

After the drawings had been selected from among the other competition plans, and adopted, they were sent from Washington to three gentlemen in New York, who were appointed commissioners for the erection of the building (one of whom was the collector of the Custom-House). On these gentlemen examining the drawings minutely, as to the accommodation afforded, they found that it was quite inadequate to the purpose intended; and even this was not discovered until the foundations of the external walls were laid. It therefore became necessary to have the drawings revised, and I was applied to for this purpose. What I have been able to make of the building will be seen by comparing my plan (*fig.* 222.) with the original plan (*fig.* 228.). My instructions were, to preserve, as much as possible, the appearance of the original plan and elevations; to provide more accommodation; and to keep the long, or business, room of the cruciform shape, as before, with the cupola at the intersection. These instructions have been complied with, as far as practicable, as may be seen by comparing the plans, &c. No part of the building is my design; at least, no part of the exterior. To it I have done nothing, except what was necessary to increase the accommodation within, and to get rid of the Italian cupola, which I was only permitted to do after a long discussion. In the interior I have provided supports, for the hemispherical vault over the middle of the large room to rest upon, as may be seen by *fig.* 223. I have arranged the columns so as to be of some use; and I have also reduced the inordinate projection of those external lateral excrescences, which, to call buttresses, would be to profane the term; and what other name to give them I know not: the section will show the form of the ceiling behind the columns. Behind the columns, at the sides or transepts, are galleries, which communicate with the rooms on the upper floor that are next the portico in Wall Street, as the winding stairs in the large piers are not intended for the public. These galleries are supported by iron trusses, as shown in the section. (*fig.* 223.) Another section, showing the mode of forming the level ceilings over the large rooms next Pine Street, will be sent at some future time, and will form a communication by itself, as the method is entirely unknown here; and, if it be known in London, it is not practised; at least, so far as it has come under my observation, or else the "Bishopgate bressummer" would not have made the noise it did in the *Mechanic's Magazine*, in 1830.

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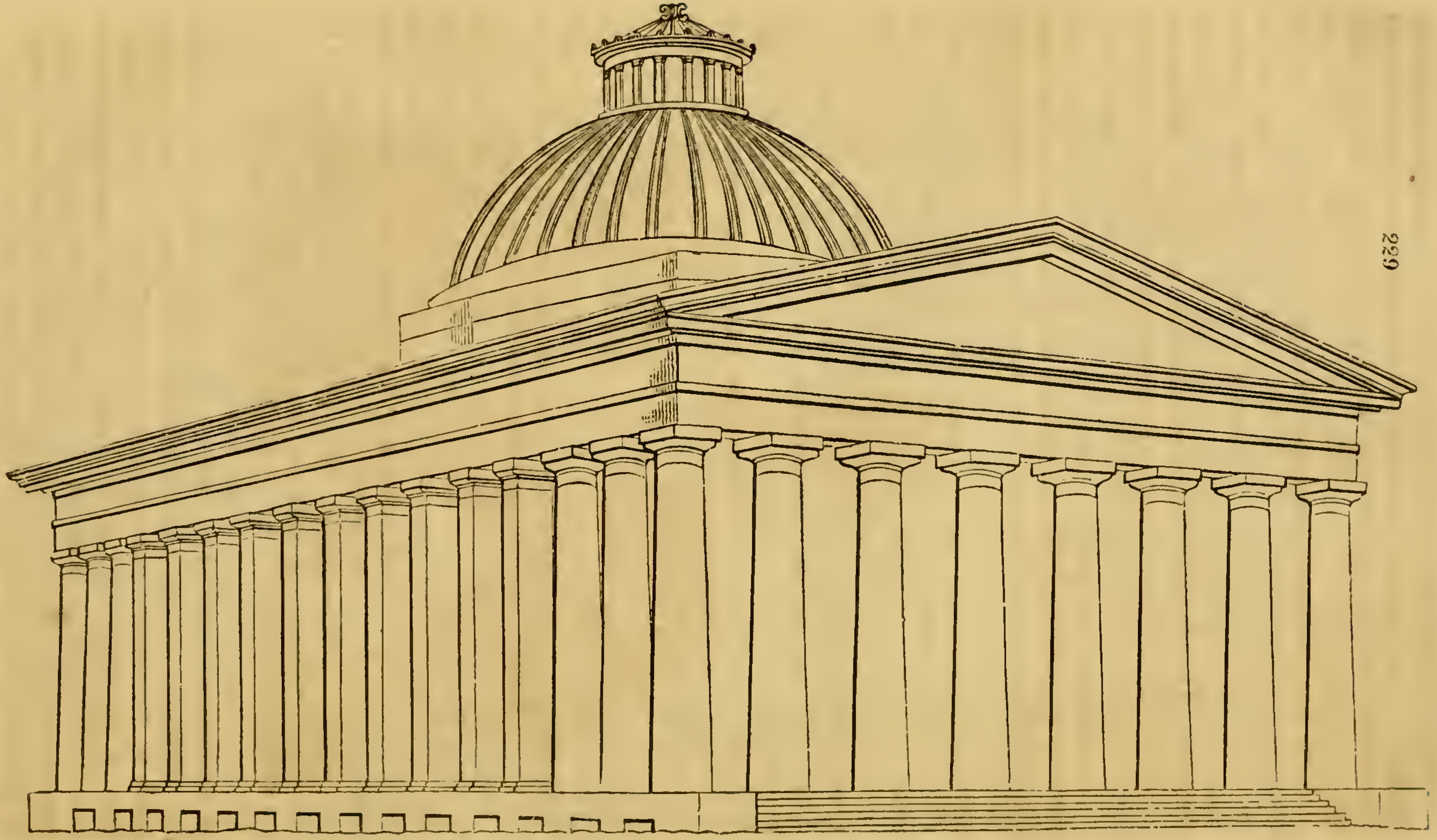

The mode which I proposed of warming and ventilating the building has been set aside: there is now to be a stove in the cellars for every room that is to be warmed, and ventilation is left to chance.

New York, March 14. 1835.

Art. II. *Perspective View and Ground Plan of a Cyclopean Cottage.* Designed by William Wells, Esq., and erected on his Estate at Redleaf in Kent, as a Residence for an Under-Gardener.

The term Cyclopean, as here used, applies only to the lower part of the walls of the cottage (*fig.* 230.), which are formed of irregular blocks of sandstone, without the slightest indication of horizontal or vertical courses. The effect, as contrasted with the numerous straight perpendicular lines formed by the studwork in the upper part of the walls, and with the horizontal lines of the roof, is exceedingly good. The studwork is filled in with brickwork plastered over; the smoothness and finished appearance of which, as contrasted with the rudeness of the Cyclopean part, is forcible, and at the same time pleasing.

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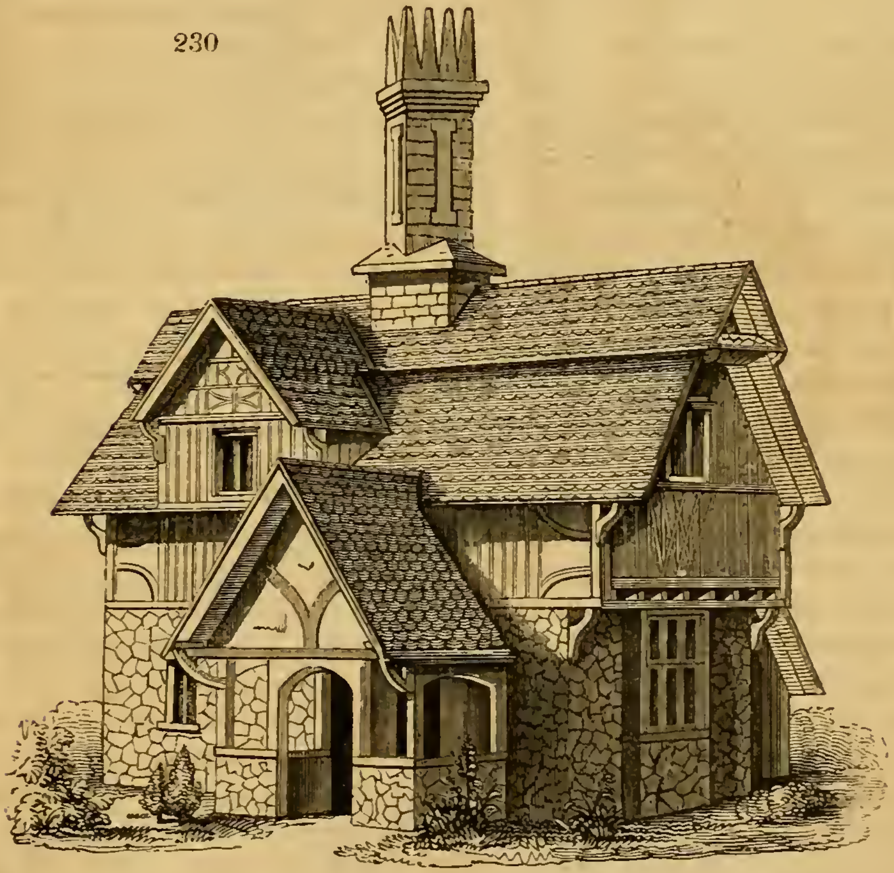

A great beauty in this cottage results from the horizontal division of the main body of the roof; the upper part of which projects slightly over the lower part. The chimney top is massive, and original. The whole was executed by a local carpenter and mason, from the sketches of Mr. Wells, out of timber and stone produced by the estate.

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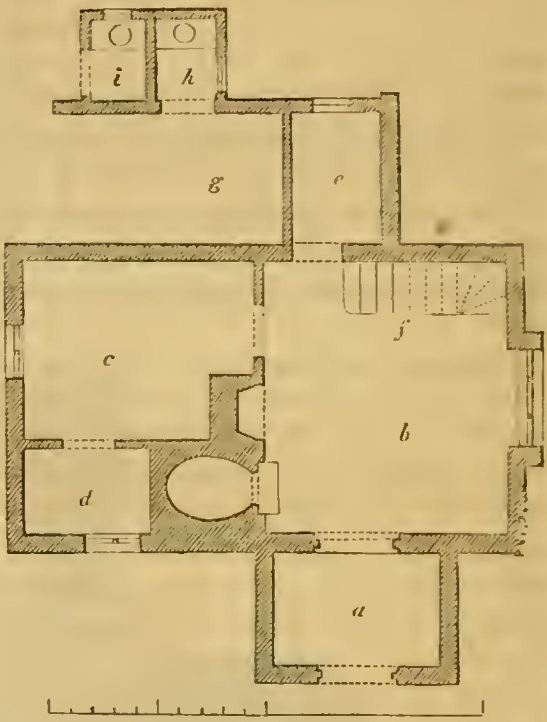

The plan (*fig.* 231.) contains a porch (*a*), kitchen (*b*), parlour (*c*), light closet (*d*), pantry (*e*), a staircase (*f*) to two good bedrooms above, and to a cellar under the parlour below; also an open shed (*g*) for fuel. A privy for women and children is at *h*, and one for men at *i*. The oven in the kitchen is shown large, to suit the description of fuel in general use by cottagers, viz. faggot wood. We have shown, in our *Manual of Cottage Gardening*, how this fuel may be grown by every cottager for himself; and also how, by placing the oven in a cellar under the sitting-room, the waste heat might traverse under the kitchen floor in brick flues, and thus warm the whole house.

The roof is covered with pantiles; but if this building were imitated in America, or in any country where wood is substituted for tiles, it would be found, from the high pitch of the roof, particularly well adapted for shingles. Where stone was not plentiful, the lower part of the walls might be of brick or mud, on a foundation of brickwork or masonry.

Art. III. *Modes of Architectural Representation: — Models, Geometrical Drawings, and Perspective Drawings.* By W. H. Leeds, Esq.

(*Continued from* p. 459.)

Elevations do not afford so much matter for remark as the preceding class of drawings, save in regard to the degree of effect attending the different modes of executing them; the same features being shown one way as another. For engraving architectural subjects of this description, *outline* has, of late years, been most generally adopted; and, independently of the economical considerations which recommend it, it certainly possesses one peculiar and important advantage; namely, the extreme precision of form which it admits, and the clearness with which the minutest details can be expressed; whereas, when shadow is added, this perspicuity can no longer be fully preserved; nor can very nice measurements be taken from a shadowed elevation, unless it happens to be executed upon a very large scale, and with more than ordinary attention. Besides positive correctness of form, there are degrees of merit in outline as well as in other modes of engraving or drawing: it may be flat, tame, and insipid; or full of vigour, spirit, and expression. How such difference can take place with mere lines, it is not easy to say; but let any one look at the outlines occasionally given in the older architectural publications, and then turn to those by Normand, or Moses, or Percier, and he can hardly fail to be struck by the remarkable difference of character between the former and the latter. Although carefully drawn, even the plates in Cicognara's *Fabbriche di Venezia* exhibit a decided inferiority to those in most French and German works of the same class; especially to those in Klenze, in Schinkel, and in Moller's *Denkmähler Deutscher Baukunst;* although they are finished excellence compared with those in Soane's *Designs for Public and Private Buildings.*

Still, however desirable outlines are for exhibiting mere form, they convey no idea of what is not less essential to beauty of architectural composition; namely, the effect of light and shade, the distribution and proportion of each, and the variety of tints thus produced. Undoubtedly, the markings of shadows will be put in, by our perceiving how they will be cast: yet, as the degree of projection of the surfaces which occasion them is not manifested, the *quantity* of shadow can only be guessed at. Should the subject happen to be a very simple one, and consist of only a single general plane, this will not be of material consequence: but if, on the contrary, there are several planes, and projecting or retiring divisions in the elevation, the effect will not be fully apprehended, although the circumstance itself should be understood from looking at the plan; unless such outline elevation be accompanied by a perspective view.

Nevertheless, besides that already pointed out, another advantage attending outline is, that it does not require engravings to be upon so large a scale as when shadowed; for, in the latter case, it becomes almost impossible to express the minutiæ at all intelligibly, unless the size of the whole elevation is extravagantly large in other respects. Thus, as much may be accomplished within the compass of a small folio or large quarto plate as would otherwise demand far greater amplitude of space: in fact, the latter size, or a degree smaller, would, in most instances, prove sufficient, even should it occasion the scale to be less than is altogether desirable; because, in addition to elevations showing the entire design, one division of the elevation, or as many as the particular subject might render necessary, could be exhibited at large on separate plates. That the most elaborate subject may thus be completely described, cannot be questioned by any one who is acquainted with Pugin's *Gothic Examples*, a work of extraordinary fidelity, and no less beautiful execution.

(*To be continued.*)

Art. IV. *An Idea for a Milestone, combining a Resting-Stone for Pedestrians, and a Mounting-Stone for Equestrians.* By J. P.

I send you a rude sketch of a milestone (*fig.* 232.), which, in granite, or in any hard stone, would be imperishable and immovable. It would allow room for all necessary information; and would afford a comfortable resting-place for wearied foot-travellers, and a convenient horse-block for equestrians. Three stones, cramped with dove-tailed plugs, and well leaded, would be nearly as strong as one solid block.

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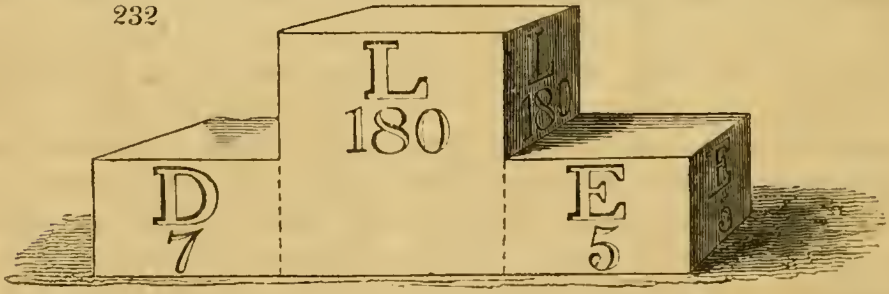
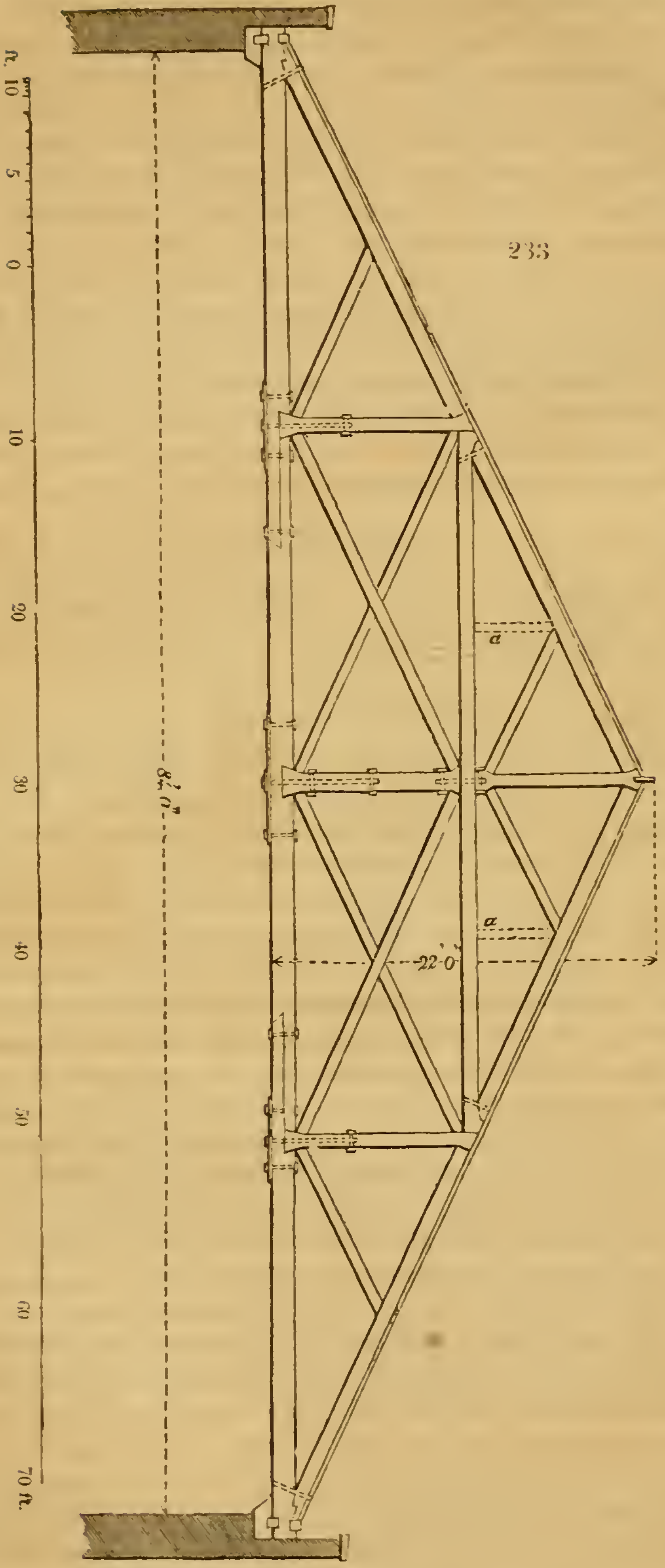


Dawlish, Sept. 9. 1835.

Art. V. *An original Design for the Truss of a Roof of large Span.* By G. B. W.

I send you a design (*fig.* 233.) for the truss of a roof of large span, viz. 84 ft., being 4 ft. wider than those of old Drury Lane and Birmingham Theatres, which, I think, would be found sufficiently strong for one of so large a size. The height, from the underside of the tie-beam to the top of the ridge-piece is 22 ft.; and the following are the scantlings of the principal timbers: — The tie-beam (in three pieces, scarfed, as shown by the drawing) 15 in. square; principal rafters, 12 in. by 9 in. at bottom, and 8 in. by 7 in. at top; lower king-post, 12 in. by 9 in.; queen-



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posts and straining-beam, 9 in. square; upper king-post, 8 in. square; principal braces, 8 in. square; upper braces, 7 in. square. The tie-beam is cogged down to the wall-plates, which are to be let in and bolted to stone corbels, 2 ft. by 1 ft. 6 in., and 12 in. thick. Under those parts of the tie-beam on which the king and queen posts rest are plates of iron, 1½ in. thick, and 15 in. wide, fastened by strong iron bolts, let in and fastened to the king and queen posts, as shown by the dotted lines; and the plates are strapped and bolted at each end to the tie-beam. The two king-posts to be securely strapped together, as well as to the straining-beam, and the rafters strapped to the straining and tie-beams. The dotted lines *a a* are studs which may be introduced, should additional strength be required for the rafters.

REVIEWS.

Art. I. *An Historical Essay on Architecture.* By the late Thomas Hope. Illustrated from drawings made by him in Italy and Germany. Royal 8vo, 2d edition. London, 1835.

(*Continued from* p. 503.)

Chap. ii. *Origin and Nature of the Egyptian Style of Architecture.* As in Asia, certain tribes descended into the vale of the Ganges; so, in Africa, the Ethiopian tribes descended into the valley of the Nile. These tribes possessed certain traditions similar to those of the Hindoos; and, like them, formed large excavations in rocks, and immense insulated monuments. In both countries the form of nearly all the detached buildings is pyramidal; and, in both, the favourite ornaments are the lotus and the palm, while the ornamental figures employed are stiff and motionless. Some have considered the grottoes of Egypt as the children of the excavations of Ellora, and the pyramids of Egypt as the offspring of the pagodas of India; but there are not sufficient grounds for these inferences. The buildings of the two countries are only the natural results of similarity of climate and of civilisation. In all countries, in the infancy of architecture, inability to enclose a vast expanse of space, and to combine solidity with lightness, produces massiveness in the parts within, and slope in those without; while, in the infancy of sculpture, instead of appearances of movement and expression, incapacity produces only rigidity of limbs and immobility of features: —

> "The Egyptians, as stupendous in their excavations as the Hindoos, are far more so in those edifices, like the temples of Thebes and the pyramids of Memphis, raised on the surface of the ground, in which blocks of stone of immense weight, conveyed to an immense distance from the quarry, elevated to

a surprising height, and cut and interwoven with others in the most ingenious and solid manner, imply mechanical powers, and skill of the highest description, of which the Hindoo buildings give no example." (p.10, 11.)

The figures in India often show a preposterous reduplication of limbs, and a degree of stiffness, which prove the infant state of the art of sculpture; while the Egyptian sculpture, though coarse in the limbs and extremities, is exquisitely wrought in the features, —

"But, however much the Egyptian architecture appears thus obliged to give up the claim of more primeval origin, which it would possess if its own evident antiquity were still preceded by an earlier antiquity in the Hindoo architecture, its parent, and, on the other hand, may assert its greater originality; the similarity of circumstances, which has been before stated, seems to have imparted to the architecture of the latter much coincidence with that of the former." (p. 12.)

Chap. III. *Origin of the Architecture of the Greeks.*

"A fourth stream of human beings, equally different from each of the three enumerated — from the Tartars, who descended eastwards into China; and the Thibetians, who flowed southwards into Hindoostan; and from the Ethiopians, who penetrated northwards into Egypt — under the name of Scythians, coming probably from the region between the Euxine and the Caspian, which from all ages has brought forth the handsomest of the human race, advanced westward along the shore of the Euxine and its continuations, through a portion of Epirus, and there seem to have made their first halt in the neighbourhood of Dodona. Finding, on all sides around them, immense forests of stately oaks, possessed of too active a mind to content themselves with a small hole for their retreat, or a tree still standing, and perhaps alive, they first detached a certain number of these vegetable giants from their roots, and laid them prostrate on the ground, ere they again raised them into a single habitation." (p. 20.)

It may be sufficient to add, as the essence of this chapter, that the author adopts the hypothesis of the posts and superimposed beams, as given by Vitruvius, and, after him, by most other writers on Grecian architecture.

Chap. IV. *Influence upon Architecture of Habit and Religion.*

"In every country where new productions of nature were adopted in buildings, the shapes and modifications which had arisen from and were found necessary in those first adopted still continued to be, in those of the new sort, preserved, or rather imitated; and policy and religion seemed even to give to this method the sanction which might be thought denied to it by reason." (p. 23.)

"Religion and worship have, in all ages and conditions of human nature, exerted a powerful influence on architecture. From this universal propensity to retrace, in the latter method of construction, the forms of the earlier materials, we see that of the Chinese still resemble, in all its parts, those of the tents, its original type. In the wooden pillars, destitute of marked bases and capitals, which support the ceilings in such numbers, we see the poles; in the roofs which, from these pillars, project so far, convex alike in their spine, their sides, and ribs, the awning of hides or pliant stuffs, spread over ropes and bamboos; in the curling spikes that fringe their eaves, the hooks and fastenings; in the lowness, and spread, and clustering of the different parts, the whole form, and appearance, and character belonging to the residences of the herdsmen, their ancestors. Chinese houses seem to cling to posts which, when planted in the ground, have struck root and become fixed. The palaces only look like a number of collected awnings, and the very pagodas, or towers, in their loftiness, are nothing more than a number of tents piled on the top, instead of standing by the side, of each other. The aggregated dwellings, from the smallest village to imperial Pekin itself, in their distribution, resemble nothing but a camp; and when Lord Macartney, after crossing the whole of the Chinese empire, from south to north (from Canton to the great wall, its furthest length), was, on the borders of Tartary, received by the Emperor in a real tent, he scarcely perceived any difference to exist between it and the millions of stationary buildings he had viewed." (p. 24, 25.)

" In the Greek edifice of stone and marble, however large in its dimensions, however sumptuous in its details, the form of the primitive cabin of stems and foliage of trees in which it originated was, to the last era of Greek independence, preserved with the more scrupulous and religious fidelity, because the Greeks conceived this peculiar shape as stamping the truth of that title of *Αυτοχθονες*, or aboriginal possessors of the soil, on which they set so high a value. The hut of Pelasgus, the last entirely wooden cottage in Arcadia, remained the unvarying model of every subsequent fabric in stone and marble, however stupendous, which arose throughout Greece." (p. 27.)

" So much, indeed, does every style of architecture belonging to a particular race begin by being conformable to the local exigencies and productions, and thence requisite modes of construction, of the regions and climates in which it originates, that should we still, in any country, discover a manner entirely peculiar, wholly original, fundamentally different from those here described, we may be sure that its singularities have at some time proceeded from a temperature, or a locality, or a material, or a system of customs and manners, peculiar to themselves, and altogether different from those of other nations here mentioned." (p. 28, 29.)

" The Greek style alone, as we shall show, not only has continued to live and to flourish to this day, but, from its singular vital force, to show such a number of different successive transformations, that it has assumed a wholly different form; that most people refuse to recognise in its last developements the uninterrupted descent from its first principles." (p. 31.)

Chap. v. *Nature and Character of the different Orders of Grecian Architecture.* Here the author adopts the opinions of Vitruvius, but argues against the prejudice of some modern architects, who follow implicitly that master's rules, without subjecting them to the modifications of time and place.

Chap. vi. *Natural and Adventitious Circumstances by which Grecian Architecture was affected.* The mildness of the climate in Greece permitted much of public and private business to be transacted in the open air, or under open porticoes; and the organisation and habits of the people seem to have produced in them an indisposition to the use of confined receptacles. What these circumstances rendered agreeable, ignorance of the arch, and of the use of glass, rendered necessary.

Chap. vii. *On the Origin of the Arch.* The Cyclopean openings in walls present neither the principle nor the power of the arch, though they may have led to its invention. If the arch was invented in Greece, it was never developed there: —

" To the last, their inability to place any upright supports, whether columns, pillars, piers, jambs, or continued walls, in places where a covered roof was necessary, at a greater interval than a block of stone or beam of wood might span, generated a degree of narrowness and contraction in their enclosed buildings, and only permitted them to wall in a larger area, on condition of leaving the edifice exposed to the sky. To the last, their want of science produced an enormous consumption of materials in proportion to the space obtained. To the last, the internal forms of their edifices must, with all the elegance that could be applied to their limited combinations of outlines, have displayed a want of height, an angularity, and absence of that curve and swell which enables the arch, and cupola, and vault, to produce equal variety, connection, and harmony." (p. 53.)

Chap. VIII. *Decay of the Architecture of the Greeks, and Progress of that of the Romans.* What the magnificence of Rome demanded, by degrees she acquired means to obtain.

" Whatever edifices were required for utility or for pleasure, in the heart of the capital itself, or in the districts composed of the conglomeration of states once independent, in the secondary seats of a government, whose provinces embraced a far more extensive jurisdiction than had belonged to any of the subjugated nations of which they were composed, such they constructed. Aqueducts, bridges, forums, basilicas, temples, baths, theatres, amphitheatres, stadia, hippodromes, and naumachia, on a scale and with a prodigality which these tributaries never could have contemplated while in a state of independence." (p. 56.)

" As necessity is said to be the mother of invention, probability would assign the very discovery of that useful developement of architecture, the arch, to the Romans, who possessed not, in their vicinity, quarries out of which to cut blocks of stone or marble sufficiently large or sufficiently handsome — who, on the muddy banks of the Tiber, were more frequently compelled to content themselves with brick; rather than to the Greeks, who possessed the finest materials in the greatest abundance.

" Still it is impossible to prove that the Romans were, or that the Greeks were not, the inventors of the arch. We find it displayed on a vast scale in the great cloaca, at a period when, if existing in Greece, it was in obscurity and concealment, but we observe it likewise in ancient Etruria, from whence the Romans appear to have derived all their earliest arts of industry and elegance, in monuments that seem anterior to the construction of the cloaca and the foundation of Rome; and we must confess that at no period the inhabitants of Latium seem to have possessed an architecture which, in its peculiar features, might be called aboriginal and exclusive." (p. 59, 60.)

" Without being able at Rome to arrive nearer to the solution of that question of mere curiosity, where the arch was first invented, the only fact that we can establish, but a fact essential to the history of the progress, and developement, and vicissitudes of Grecian architecture, is, that while the Greeks, in their own country, to the last days of their independence, abstained from rendering the arch an essential and integral part of their architecture, the Romans, whether by right of parentage or adoption, from the first era of their appearance, as a peculiar distinct nation, exhibited this new feature." (p. 61, 62.)

" Skill in mechanics is a faculty wholly distinct from taste in the fine arts: where the latter exists not, or lies dormant, or retrogrades, the other may still advance, still make great and rapid strides. Thence the greater exigencies of the Romans, in respect of architecture, the vaster buildings they had to raise and to cover, soon made them seek all the superior means, and develope all the superior powers, of the arch." (p. 62, 63.)

" This universal adaptation of a more varied developement gave to Roman architecture, from the first, an internal principle of construction, and an external corresponding feature, which had not been previously contemplated, and caused a departure from the elementary model of the Greeks, in reality, in its essence more important, more fundamental, than that which the style since called Gothic exhibited in descent from the manner of the Romans.

" Once admitted into Roman edifices, it soon began to acquire a prevalence inconsistent with the existence of the essential parts of the Grecian architecture, which were henceforward considered as optional and ornamental expletives and additions. The unbending straightness of the architrave, and the arch curvetting from support to support, the roof with sloping sides, and the rounded cupola, could not subsist together, be seen in the same place, at least as parts equally important.

" Where no beam or rafter existed within, its extremity could not appear on the external surface, under the name of triglyph or dentile.

" Thence the Romans, had they been possessed of a delicate appreciation of the beauties of art, had they been gifted with inventive or imaginative genius, would for their arch have devised some new species of ornamental addition, appearing to belong to its nature and composition.

" But such powers they could not boast. Their minds might be fertile in useful inventions: in those calculated for beauty they were sterile. They were obliged to borrow these from elsewhere, and were not even ashamed of thus confessing their deficiency." (p. 64, 65.)

" The Romans, far from possessing the genius that invents, had not even the taste that discriminates among the inventions of others. They dwelt not, in their study of ornament, on the essential conditions of beauty; they knew not the principle on which it must be founded; they required not in decoration, as in objects of strict utility, that consistency, without which the latter cannot attain their end. With them, the art of producing beauty was called into requisition by ostentation and luxury: guided in their imitation of extraneous architecture by fashion more than taste, they only wanted the semblance of Grecian forms, not the substance of Grecian principles: they were satisfied with fragments and patches, however inconsistently applied and united; nay, they were even prepared to see, in this application and union, new and unseen in Greece itself, only because it was inconsistent, fresh conquests of taste, and combinations of genius, to receive a conglomeration of remnants as new inventions, to admire the proofs of poverty as an increase of riches. Those who, transplanted to a foreign soil, from citizens and rulers, became strangers and slaves, could not, in their fallen state, retain the sentiments, the emulation, of freemen. They naturally began to prefer such a deviation from their painful and sober adaptation of ancient forms to new purposes as should insure to them present employment and profit, and that degree of marketable fame which might conduce to the acquisition of those advantages suited to their fallen condition; nay, perhaps wishing to repay their wrongs on the Romans, by combining, with an open obsequiousness to their most absurd dictates, whatever revenge they could still take of them; and to repay, with secret ridicule, the open insult received from them, were probably even anxious, in lending them their architecture, to employ it in the manner most inconsistent with its original principle, most calculated to prove and expose the ignorance and bad taste of their employers.

" Thus what remained of Grecian architecture became completely bastardised and degenerate in the Roman territory. In the former, the column was a more characteristic and essential feature than the wall, since it supported a greater proportion of the weight, seemed rooted in the deep recesses of the soil like the oak in its native forest, and rose in single stem, continuous in substance and robust in frame, from the surface of the earth to the entablature. Notwithstanding its great individual strength and diameter, it was so approximated to many more of a similar nature, which shared with it the burden of the superincumbent masses, as to give the greatest solidity to the edifice, and to gratify the spectator with the richness and variety of form, combined with the appearance of vigour and durability.

" In the latter, a continuous wall, capable, not only of supporting great perpendicular weight, but of enduring considerable oblique pressure, was an indispensable requisite for the continuous vault, and naturally became an object of greater consequence and attention than columns. These, indeed, needed only to adorn its nakedness, placed too far from the main building to be embodied with it or to add to its strength, instead of rising directly from the plinth or stylobate, were separated from it, and raised upon a clumsy square block, which, under the name of pedestal, seemed interposed to interrupt the connection between the shaft and the floor; by its size to narrow the passage, and by its protruding angles to inconvenience or to hurt the passengers.

"Frequently, as in the triumphal arches of the emperors, that pedestal became so lofty, that, instead of raising the columns on a sort of cothurnus, it lifted them on a positive stilt, and not only cut off their connection with the ground, but made them appear as if tottering in air. Where the pedestal occupied a greater space between the soffite and the stylobate, less remained for the column, which became shorter, thinner, weaker, requiring, instead of affording, support; its apparent weakness exceeding its real debility, like an appendage not wrought for the building, but borrowed from some smaller structure, and only carried to the requisite height by the aid of materials which did not belong to it. As they became weaker, like the limbs of an unhealthy child, they were stretched to a greater distance from each other, and were no longer capable of bearing an entablature diminished to their own proportions. In order fully to confirm their inutility, they were not made to carry any such, but, of an architrave directly supported by the wall itself (a continuation of that wall, indeed, under a different denomination), such projections or knots as did not exceed their own diameter, and appeared fitter for the purpose of steadying the useless pillar than the pillar for that of carrying an unmeaning entablature. The effect produced was that of a second capital mimicking the first; confusing its form, and destroying its appearance; causing as great a multiplication of breaks and angles, and of clumsy mouldings, as arises from the equally useless pedestal underneath.

"At other times, again, to show the inutility both of the column and the entablature still more evidently, both were, as in the recesses of the Pantheon, placed within an arch totally independent of either; so that the column carrying the entablature, but the entablature carrying nothing, the former only appeared for the purpose of supporting the latter, and the latter for that of tying together the former.

"But of all the parts borrowed from Grecian architecture, that which came to be applied in the way most different from, most inconsistent with, its nature and distinction in the original, was the fastigium, the part which we call the pediment.

"That pediment, which was only the termination of a roof slanting both ways from its central line or spine, of which, throughout its whole length from end to end, the continuity was never broken, which was never seen in Grecian buildings, except on the straight line at the summit, and the gable formed by the extremity of the roof, in Roman architecture frequently appeared as if cut off from all that belonged to it, and grew out of, and was stuck under, the entablature which it should have surmounted, against the upright wall, over a door, a window, or a niche, even as in the temple of Balbeck, placed within a projecting portico; a situation in which it could not be useful even to carry off the wet. Instead of a single, large, and majestic pediment, naturally and magnificently terminating the building, several rows were sometimes seen of these small and inappropriate triangles; and, to complete the inconsistency, they were rendered as unnatural in form as in situation. They were sometimes rounded, sometimes broken, sometimes squeezed within others of larger, sometimes strung round others of smaller, dimensions. Such we see them in the Castello d'Aqua at Rome, the remains of the temple of Diana at Nismes, those of the temple of the Sun at Balbeck (or rather Bahalbeck), and the palace of Dioclesian at Salona.

"In Grecian architecture, the square pilasters only terminated the square pier, or antae of the building; by the Romans it was carried, in shallow slips or slices, along the whole surface of the wall; and, as the tyrant Maxentius tied together the living and the dead, so the architects of Rome every where attached the round, vigorous, and independent column to one of these flat, weak, and confined pilasters, for no other purpose, that can be conjectured, than that the effect of its tapering form might be destroyed by the straight lines of the pilaster.

" In buildings of a circular shape, of which the Romans had many, not only was the architrave represented as bent in a hoop around its centre, but triglyphs and medallions appeared diverging in radia from that centre to the architrave. In one of the temples of Balbeck, copied at Kew, the entablature, instead of following the convexity of the belt of columns, between each pillar and the next displays a concave semicircular recess.

" The Doric was seldom employed by the Romans in these strange aberrations. Its forms were too inflexible to be susceptible of such modifications. Its name, however, was preserved in an order substituted in its stead, but in which those features which had rendered it most characteristic, and at the same time most intractable, were left out; so that it differed only from the Ionic and the Corinthian in its somewhat greater sturdiness. The Ionic had in its capital the beautiful variety and contrast between the front and side of the volute changed into complete sameness; and the Corinthian lost the peculiarities commemorative of its origin; the acanthus rising round it, until its delicate and graceful tendrils were made to curl down under the superincumbent tile, in enormous volutes, no longer connected with its foliage, or was replaced by a sort of combination of the Ionic and itself, called the Composite, which, instead of being a new creation of genius, gave evidence of poverty to invent, and ignorance to combine. The very ovolo of the Greeks was truncated at its top, and the dentiles scooped out underneath, so as to become a zig-zag. As may be seen in the tomb of Scipio Barbatus, the Doric triglyph was associated with the Ionic dentile; and in the theatre of Marcellus the Doric column was made to support an Ionic entablature. But among all these re-combinations of elements already familiar, we nowhere remark the discovery of any mode of decoration essentially new; and to this day the ornamental forms of ancient architecture are limited to the number exhibited by the Greeks in the days of their freedom.

" Already, under Augustus, who prided himself upon having found Rome of brick and left it of marble, did the aberrations from consistency in architecture strike Vitruvius,—a Greek, indeed, but who, from the natural influence of the times, seemed to have imbibed many Roman ideas, so as to induce him bitterly to inveigh against them. 'The Greeks,' he says, 'ever mindful not to represent in the copy what could not exist in the original, would, on no account, in the slanting cornices of their pediments, have placed the dentiles under the medallions; since such proceeding would have been in direct opposition to the original principle of the wooden roof: but the Romans never suffered themselves to be shackled by rules of propriety so minute and so strict. They place both dentiles and medallions just as, and wherever, their whim happens to prompt them.'

" Under the reign of Augustus's immediate successor and nephew, Tiberius, architecture was already so degenerate, that the arch, built by that emperor in honour of his uncle, exhibits the most lamentable defect of proportion. Of immense width, in proportion to its height, it is supported by two piers, and flanked by two columns so jejune as to look like a dwarf with long meagre limbs. The pediment, too narrow to rest on the entablature from column to column, seems in danger of slipping down between them. Exactly reversed from this arch, in all its defects, is that of Trajan at Ancona: its gateway offers a height wholly disproportionate to its width; all its parts appear squeezed together from the sides, and elongated in the same proportion from the ground upwards. To prodigiously elevated pedestals underneath, and expletives above, we see added every where a confused reduplication of unmeaning mouldings. Bad taste seems carried to its highest pitch in the Porta dei Borsari, at Verona, probably built under Alexander Severus. The columns are fluted spirally, and the pediments over the niches are alternately round and triangular. We might, indeed, quote something worse, if the spiral column of Rosso, now in the Colonna palace of Rome, and said to have been found in the ancient temple of Bellona, is really antique in its form as well as its material. Instances of arches springing from column to column, without the intervention of entablatures, are seen in Dioclesian's palace at Spalatro.

" Of the original construction, interesting as associated with the origin and national achievements of the Greeks, pleasing to the beholder as accounting for every partial form, making beauty rise directly from utility, and maintain with it an indissoluble connection, not a vestige was left uncorrupted. Architecture, from being, in the time of its purity, like a young virgin, all health, simplicity, and truth, her modest beauties derived from her natural and essential forms, in its degeneracy and corruption was overladen with meretricious ornaments; fulsome from their glare, and oppressive with their weight and encumbrance. The bad taste of Rome became so general as to extend to the very heart of Greece itself; and the same defects are observable in the arch of Titus on the banks of the Tiber, and in the arch of Adrian on the banks of the Ilissus. Yet can it not be denied, that the Roman architecture, in the curves and convexities of the arch, afforded means of adding much of variety and beauty to the straight lines, flat surfaces, and angular terminations, and created a pleasing impression, which its awkward combination of Grecian forms could not destroy, and which it must preserve, whether it shook off or remained trammelled with inconsistent additions.

" Under the influence of Rome, and in the general decline of art, not only the composition, but the execution of architectural ornaments lost all their former excellence. Plain mouldings, no longer contrasted with each other, but tastelessly multiplied, became at once heavy, and yet tame, and without effect; imitative ornaments were ill wrought and confused. While yet edifices so vast and magnificent as that of which we see the remains, under the name of the Temple of Peace, continued to be erected, sculpture had already fallen to so low an ebb, that its gigantic marble brackets, ornamented with victories, offer a workmanship not superior to the worst of Gothic eras; and not much later, under Constantine, its powers seemed so entirely palsied, that, according to some writers, the arch of that emperor could only be decorated by stripping that of Trajan of bas-reliefs, wrought in honour of another emperor, and recording other conquests.

" We have seen that in Greece, from the ignorance of the art of vaulting, even temples were left open to the sky, and scenic exhibitions performed under the broad canopy of heaven, and, consequently, in the daytime.

" At Rome, from the deficiency of glass sufficient for their wants, many chambers, destined for public meeting and private habitation, seem never to have had any other light than that of lamps. In the baths of Titus, the Laocoon was found in a room totally shut out from daylight. In these apartments beauty was sought in a less degree from the chaste effect of relief than from the glitter of costly materials and the gaudiness of vivid and contrasted colours; a taste alike reprobated by Vitruvius and by Pliny, and nevertheless carried to such a pitch, that the richest marbles still had additional spots of different hues, stained or inserted in them, to add to their brilliancy. While apartments of a more magnificent description thus shone with porphyry, and serpentine, and verde, and rosso, and giallo antico, and every species of agate and jasper, of ordinary rooms the walls were painted in encaustic colours, less expensive, but not less vivid; and the fanciful combinations of vegetable and animal life, already exhibited in sculpture, became in painting, from the easier flourishing of the pencil, and the more uncontrolled range it found in the large flat surfaces to cover, still more extravagant. All the decorations of rooms seem, in the later ages of the empire, to have been in that style which the

Italians inappropriately enough called grotesque, from having seen its first specimens in the grottoes or excavations which restored ancient buildings to light, and which has since, with still less propriety, been called Arabesque; since the Arabs, prevented by their religion from representing animated nature, never knew them at all.

"The architecture of the heathen Romans, in its deterioration, followed so regular a course, that that which most immediately preceded the conversion of its rulers to Christianity is also the worst. In the palace of the last emperor who persecuted the Christians, of him who immediately preceded Constantine, their first imperial advocate, of Dioclesian at Spalatro, we not only see some of the columns carrying the arch itself instead of an intervening fragment of entablature, which may, indeed, be deemed an improvement, as discarding a now useless member, but others supported on brackets instead of pedestals, on which more of a similar nature again rest, without any continued line of separation to mark an intervening floor; and entablatures which reach not horizontally from column to column, but with all their various component parts of architecture, frieze, and cornice, circulate round a huge connecting arch." (p. 69—81.)

(*To be continued.*)

Art. II. *A Dictionary of the Architecture and Archæology of the Middle Ages.* By John Britton, F. R. S., Honorary Member of the Institute of British Architects, and of other Societies Foreign and English. Royal 8vo. Part III. containing two sheets, and thirteen engravings. London, 1835. Price 12*s.*

Parts i. and ii. of this publication appeared upwards of two years ago, and we began to despair of seeing the remainder of the work, which we consider one of first-rate excellence. It will contain the essence of the whole of Mr. Britton's architectural and archæological knowledge; in short, it will comprise the most valuable part of all his other productions, and will therefore be as essential to every architect as an English dictionary is to every Englishman. All the fears we have ever had respecting this work were comprised in that of the author never being able to bring it to a conclusion. We were, therefore, much gratified with the information conveyed in the address which accompanies this third part, that the author "feels assured that he will be enabled to complete the whole in the course of the ensuing winter." We sincerely hope that he will meet with such a sale of this part as will encourage him to proceed; when the work is finished, there can be no doubt that the sale will be most extensive.

The letterpress of the present part concludes the article castle, and contains catacomb, cathedral, ceiling, cell, cellar, cemetery, chair, chamber, chancel, chantry, chapel, chapterhouse, and a great number of minor articles.

Art. III. *A Historical Sketch of the Art of Sculpture in Wood, from the earliest Period to the present Time; with Notices of the most remarkable sculptural Works in the same Material now remaining in Europe, and some account of the Designers.* By Robert Folkestone Williams, Author of "Rhymes and Rhapsodies," &c. Small 8vo, pp. 109. London, 1835.

This is a very interesting book: the author has brought to bear upon his subject an extensive acquaintance with the arts and the literature, not only of England, but of France, Germany, and Italy; and, by giving the history of eminent sculptural productions of different ages, and of different parts of the Continent, he contrives to interest not only the reader's taste for art, but his feelings for suffering, humanity. One would not, on looking at the title of such a work, expect to find in it that the Inquisition was one of the causes of the improvement of sculpture; or, that some of the finest works of this form of art should be the pictures of heretics who were burned.

"The church of the Dominican Friars, at Venice, dedicated to St. John and St. Paul, was enriched with a multitude of works of art, of every description; and possessed a library, which, in its original state, might have been considered one of the most extraordinary apartments in the world. By a reference to a curious series of engravings in the possession of Mr. W. H. Brooke, the talented artist, illustrating all that was most remarkable in the city of Venice (an ancient and singular work), I have been enabled to ascertain the position of the statues, and the object of the parties who caused them there to be placed. The grand design of the artist in the erection of that chamber, and in the application of its ornaments, was to show the triumph of the Roman Catholic religion over all its opponents. With this object in view, statues, rather larger than life, exhibiting the persons of the most noted "heretics," as they were called, in different positions, wearing chains, signifying their complete subjection, and clothed in loose drapery or in ragged vestments, to denote their disreputable condition, were ranged round the room, each supporting a sort of heavy buttress, projecting above their heads from the wall. These figures were placed at regular distances from each other, and each pedestal on which the single statue is standing contains a representation of the face and body of that individual, writhing in the agonies of a state of eternal suffering. Upon the breasts of these devoted victims inscriptions have been carved in Latin, copies of which will be found in the Appendix, stating their names, their countries, their offences against the church, the years signalised by their heresies, and the names of those orthodox advocates, who, in the opinion of the Catholics, proved the falsehood, and defeated the arguments of the schismatics. Beneath each pedestal appear the writings of the heretics, burning in continual flame — above the head of the statue is seen the figure of a child, or angel, apparently much gratified with the torments inflicted on the Protestants; and above each angel is a portrait, possibly of the good Catholic whose arguments, it has been stated, confounded the heretic. The statues, with their pedestals, were carved out of solid masses of the wood of the chestnut tree.

"Judging of these figures by a comparison with the sculptural works in the same material produced since the commencement of the Christian era, they are unparalleled. It cannot be denied that they show the hand of a great master. Every judicious critic must allow that Brustolini's statues are the result of a perfect knowledge of the resources of art, made subservient to as intimate a familiarity with the resources of nature. In design and execution they approach nearer in spirit to the antique than any production of a more recent age with which I am acquainted; indeed, taken as a connected whole, I think they will not be found much inferior to the grandest conceptions of the Greeks. The Greek sculptors possessed numberless advantages not allowed to the Italian artist. The subjects chosen by the former were generally clothed with a heroic or political interest. They represented warriors with the attributes of gods, and deities evincing all the perfection of humanity. Their female figures are the most faithful representatives of the most perfect state of feminine loveliness. Take their best school of art, and there will be found in its examples a union of ideal and natural beauty (the result of a lofty imagination governed by mature judgment), which presents to the eye a combination of shapes, a series of scenes and a multitude of characters, as noble, as true, and as various, as nature in her sublimest efforts can produce, or man in his most intellectual mood conceive. While they demand the admiration of the mind, they win the adoration of the heart. A man cannot gain a more satisfactory conception of the nobility of his species, than is to be acquired by viewing these glorious manifestations of its intelligence.

"Brustolini had no ideal beauty to delineate. His subjects had no political interest to recommend them: they were chiefly men advanced in life; and the design was not to waken for them sympathy, or create admiration, but to show them in the most humiliating light to the spectator, and impress on him a conviction of their wretchedness and worthlessness, their forfeiture of heavenly notice, and their unworthiness of human commiseration. It is true that the Protestants are represented in a state of torment; but their sufferings were not intended to extort pity for the victim; they were designed to threaten the same punishment to the heretic. The orthodox were to see in these statues the glory of 'the true church,' while the schismatic might behold and tremble 'for the wrath to come.' Yet, from beneath the ignoble trammels which bigotry has sought to enslave the natural philanthropy of art, genius is seen to emancipate itself; and, in characters of grandeur that cannot be misinterpreted, declares its universal charity and perfect freedom. If ever the sublime was approached, it is seen in these sculptures. When we bring into consideration the wonderful variety of expression in the countenances; the surprising boldness and beauty in the arrangement of the drapery, equally varied; the extraordinary life-like energy and majesty visible in the position of the limbs, in no two instances placed in the same posture; the vastness of the sculptor's design, his fidelity to nature in all its details; the material upon which he worked, and the difficulties he must have had to surmount before he completed his conception; it is impossible to avoid bestowing a prodigal share of praise on the genius of Brustolini, while a disposition is felt to regard his productions as perfect miracles of art. The pedestals divide admiration with the statues; for the distortion of the features, under the action of the most intense suffering; the scorched appearance of the flesh, enduring the burning heat of the damned; the flames and snakes, that occupy on the head the place of the hair; and the shrivelled arms and hands, that hang helplessly on each side, are executed with a semblance of reality quite startling.

"It is not improbable that the superiors of the Church of Rome afforded the artist every facility towards successfully completing his design. It was to show the supremacy of their religion that he worked; and with such an object in view, it is easy to imagine that they assisted heart and hand in the labour. A great proportion of the reformers of the Roman Catholic doctrine had originally been its professors, living on intimate terms with its most influential prelates, and possessing their unlimited confidence. Their persons were known, their habits notorious. This general knowledge of these men must have much assisted the artist. When he could not get to see the originals, it is likely that portraits were obtained for him; and by comparing Brustolini's statues of Erasmus, Luther, Melancthon, and others, with the authentic portraits of these distinguished Protestants, a considerable resemblance will be observed; although one certainly not favourable to the reformers. In this comparison, the fact must be borne in mind, that the design was to flatter the Church of Rome at the expense of the Protestants; 'the heretics,' therefore, are made to appear as unprepossessing as possible.

"While attempting to account for the various pictures of agony delineated on the different pedestals (rivalling in intensity the feeling of horror seen in the Laocoon, and that of suffering in the Dying Gladiator), where features are distorted without extravagance, and the expression painful without being offensive, I think it is not preposterous to imagine that, in those times of unrelenting persecution by the Catholic prelates, of those who dissented from them in opinion, to the sculptor every *Auto da Fé* became a study, and each scene of torture in the Inquisition, a lesson. It is a most uncharitable supposition, I acknowledge; and I regret to add, that too much evidence of it exists, to render it improbable."

These statues are now in London. They were first in the possession of Mr. Ellis, John Street, Oxford Street, but have been for some months open to the public in Bond Street, where we believe they are still exhibiting.

In the preface the author informs us that this work is intended as a popular compendium, of a more elaborate work which the author has in preparation "for those who are desirous of a complete book of reference, in which every thing relating to timber architecture and sculpture in wood will be lucidly arranged and philosophically treated." We should be wanting in our duty to the public, if we did not most strongly recommend this popular compendium, and for ourselves we shall most anxiously expect the promised complete book of reference on every thing relating to timber architecture.

Art. IV. *A Historical and Descriptive Account of All Saints' Church, in Newcastle upon Tyne, illustrated with Plans, Views, and Architectural Details.* By T. Sopwith. 8vo, pp. 131; several plates and woodcuts. Newcastle, 1826.

Though this may be considered a local work, yet it goes so much into detail, and gives such accurate plans, sections, views, estimates, &c., of the church, that it is calculated to be of considerable use to the young architect. After describing the old church, which occupies the first 45 pages of the work, the subject of the new church is entered on. From a number of competition plans, given in in 1786, that of Mr. D. Stephenson was adopted, and the work was commenced soon afterwards, and finished in 1796. The plan of the church may be described as a circle, slightly flattened, with a recess on one side for the pulpit, and another exactly opposite for a staircase. The following interesting matter occurs respecting the pulpit: — "From the extreme height and capacity of the building, there at first appeared a considerable difficulty in placing the pulpit; as, in many situations, the voice of the preacher was nearly inaudible.

To remedy this defect, a concave sounding-board was tried, but without producing the desired effect. In March, 1790, the pulpit and reading-desk were removed, and a temporary reading-desk placed in front of the communion rails. In the month of September following, the pulpit was removed from the east wall to the front of the pews in the area, in which situation it remained until the year 1812, when it was resolved to close the middle window of the chancel, and place the pulpit immediately against it: in this situation it yet remains; and, owing to the concave arch of the recess, together with a large sounding-board, the sound is greatly prevented from being dispersed in the vacuity above the gallery and centre of the church. The taste and elegance displayed in the alteration, which was done under the direction of Mr. Stokoe, leave no doubt of this being, not only the most useful, but the most appropriate and handsome situation that could have been selected; but, though in many respects a valuable improvement, it has by no means so completely effected the proposed object, as to lay aside speculation on further amendment. The very peculiar construction of the building, and the present imperfect knowledge of the practical application of the science of acoustics to the regulation of sound, seem powerful obstacles to any projection founded on scientific principles; while the expense and uncertainty of actual experiment appear equally formidable. It has been proposed to amend the defect, by placing a flat ceiling under the present concave one. Not to mention, however, the sacrifice of so beautiful an ornament as the present ceiling, it appears at least doubtful whether the reflection of sound from a flat surface would be much superior to that from the present concavity, the tendency of which to concentrate sound seems more than to counterbalance the inconvenience of its additional space; which, owing to the windows and cornice, could not be avoided to a greater extent than the height of the segment which it forms. By the addition of transparent paintings on the inner side of the windows at each side of the pulpit, a uniform reflecting surface would be formed, which could not fail to produce a desirable effect, by preventing that dispersion and weakening of the sound, which must naturally be caused by such recesses in their present open state. The application of large brackets, in the manner of inverted buttresses of ornamental open woodwork, at the upper part of the walls, seems calculated to be serviceable in all large buildings, where a considerable extent of plain wall occurs without any projection. When this is the case, the sound, instead of being forcibly projected to the auditory in the body of the church, is diverted and weakened, by its tendency to follow the uninterrupted course of the wall; and thus, in All Saints', and other buildings of a similar form, a kind of whispering gallery is formed, for want of projecting obstacles to divert the current of sound, and that which is inaudible in the centre, is perfectly distinct at the opposite side." (p. 70—72.)

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Recent Improvements in the Carpet Manufacture.—There is a most interesting and philosophical paper on this subject in Professor Jameson's *Journal* for October, 1835, which we would recommend every young architect to read. The article is by Mr. Edward Sang, teacher of mathematics and lecturer on natural philosophy, Edinburgh; and it forms one of a series of reports regarding new inventions and improvements in the useful arts throughout Europe, which have been ordered by the Society of Arts for Scotland; one of the most useful and best conducted societies that that or any country can boast of. Mr. Sang's paper shows how much mind, and how much of philanthropic feeling, can be thrown into any subject, when these qualities belong to the head and heart of the writer. A few generations back, Mr. Sang observes, were content with covering their floors with what we now confine to our stables; and lands were granted for the purpose of providing clean straw for the royal chambers. Now Kidderminster carpets and well-scoured boards have displaced that vehicle of infection, even in the dwellings of the laborious artisan. "To some," says Mr. Sang, "the introduction of such luxuries may appear to savour of effeminacy: those who admire nations only when formidable in war, who glory in bloodshed and devastation, may fear that when each peasant treads upon a well-made carpet, when the cot boasts of luxuries unknown two centuries ago even in the palace, nations will lift but feeble hands in encroachments upon each other. But he is much mistaken who regards such comforts as marks of effeminacy. Were they the results of Roman spoliation; were our furniture, our china, and our carpets, torn from the industrious of conquered provinces; had we our silks for tribute, and our cottons for booty; then, indeed, should we be effeminate and vicious. But those comforts which we so richly enjoy are the results of industrious and upright toil. Every luxury that surrounds us is the fruit of skilled energy: the procuring of it has exercised our patience, and improved our strength; while the enjoyment of it restrains us from wanton aggressions on our neighbours, and nerves in our own defence. The spread of comforts among every rank guards us against tumult on the one hand, and oppression on the other; and every improvement on our manufactures, every cheapening of our commodities, is a step forward in the path to happiness."

After speaking of the elegance of the process of the carpet manufacture, and the beauty of its products, Mr. Sang describes the triple carpet, the invention of Mr. Morton of Kilmarnock. "The inventor of this texture," he says, "has conferred on us a very great benefit: he has furnished us with a lighter embellishment for the interior of our dwellings, and presented to us another evidence of the active benevolence and social disposition of man. And it is agreeable to reflect that, in the nursing of the idea, and the carrying of it into effect, he must have felt a pleasure much more intense than is likely to be experienced by any of the multitudes who will enjoy the fruits of his abilities.

"A desire for something in the interior of a dwelling, analogous to the soft clothing of the external world, seems to be generally felt; for, in all states of society, attempts are made to remove the hardness and unseemliness of the floor. Among the poorer nations these attempts are confined to the mere dormitories; but, as advances are made in wealth, the mat and the carpet begin to appear. The softness of the turf, and more than its smoothness, having been attained, it was natural to imitate also its embellishments: for this purpose several distinct kinds of carpet texture have been contrived. On one of these I have already reported an immense improvement, and proceed to describe a no less striking improvement in another."

The carpet alluded to is the Brussels carpet, distinguished from the common one by having a raised pile, and by having the figures and colours entirely produced by the warp. An improvement on this and other carpets, by Mr. Whytock, is next described, and appears to be the last great improvement made in the carpet manufacture. "Greatly admired patterns have already been produced by this method; and the manufacture meets with great and deserved encouragement." (p. 260.) We shall quote Mr. Sang's very interesting conclusion: —

"A strong prejudice, sanctioned by an old proverb, exists against those who turn their attention to several branches of the arts; yet it is a fact, that almost every improver has been Jack of a good many trades; nay, an acquaintance with a variety of operations is essential to the invention of new ones; and very often prodigious improvements are effected by the simple transference of a process from one art to another. May I be allowed to hint that the triple carpet is one of those generalisations so often found in scientific researches, and that its inventor appears to have extended his studies far beyond the subject of carpet-weaving. The patent carpet, again, bears on the face of it the necessity for a knowledge of the arts both of dying and of weaving; for no one not intimately versed in both arts could have conceived, or, having conceived, could have carried the idea into effect. The difficulties to be encountered were by no means few, and the overcoming of each was itself an invention. Another idea exists, that the happening to hit upon new discoveries is a matter of chance; and some appear (I judge from their conduct) to imagine that the less they know of a subject, the more likely they are to alight on something new, as a bad swordsman trusts to that very circumstance for outwitting his antagonist. Once in a century, indeed, one man, among ten millions, may find, by chance, some valuable process; but the great mass of our current inventions are the fruits of assiduous and well-directed exertion; and the mind, even more truly than the body, must earn its food by the sweat of its brow."

ART. II. *Domestic Notices.*

ENGLAND.

"*As a Means for teaching the Public some Lessons in Architecture,*" I beg leave to suggest the exhibition of the various designs that may be given in for the Houses of Parliament, with a printed catalogue of the whole; containing the detailed description of each design, by its author, with the reasons for, and against, each design, either by the committee, or by those who prepare the catalogue. I would farther propose, that there should be a public lecture on the different designs, by a professor; who should go round the room from one picture to another; and that this lecture should be delivered once every forenoon, for a week or two, for the benefit of persons of leisure; and once every evening, between eight and nine o'clock, for the benefit of mechanics and other persons engaged all day in business. — *Heder. London, Oct.* 13. 1835.

Heating by Gas. — The application of heating by the flame of burning gas is coming very extensively into use. The plan has recently been introduced at Islington Church, and St. Michael's Church, Strand; the vestry-room at St. Sepulchre's, His Majesty's Royal Mint, Westminster Hospital, and several banking-houses and other public buildings. (*Morn. Chron.*, Oct. 9.)

We have recommended this mode of heating, in several cases, for town green-houses and conservatories; and, as soon as gas becomes a little cheaper, we are persuaded it will become general for this and other purposes. The great difficulty at present is to get an apparatus which, while it communicates all, or the greater part of, the heat generated to the apartment or space to be heated, does not admit of the escape of gas into it. — *Cond.*

SCOTLAND.

Beattie's new Spring for shutting a Door which opens both Ways (*fig.* 234, 235.) appears to be an excellent invention, applicable both to doors in houses, and to doors or gates of any size in the open air. Mr. Beattie is foreman to Mr. Ritchie, ironmonger, Edinburgh: his invention was laid before the Society of Arts for Scotland in December, 1833, and it is thus described in Jameson's *Journal* for October, 1835:—" The spring is contained in an iron box, 11 in. by 7 in., and $1\frac{1}{2}$ in. deep, and consists of two horizontal wheels, marked on the section *a a* (*fig.* 235.), lying close above, and parallel to, one another, moving on the same axis with the door, to which the chains (*b b*) are attached, and moves with the wheels; the other ends of these chains are fixed to the

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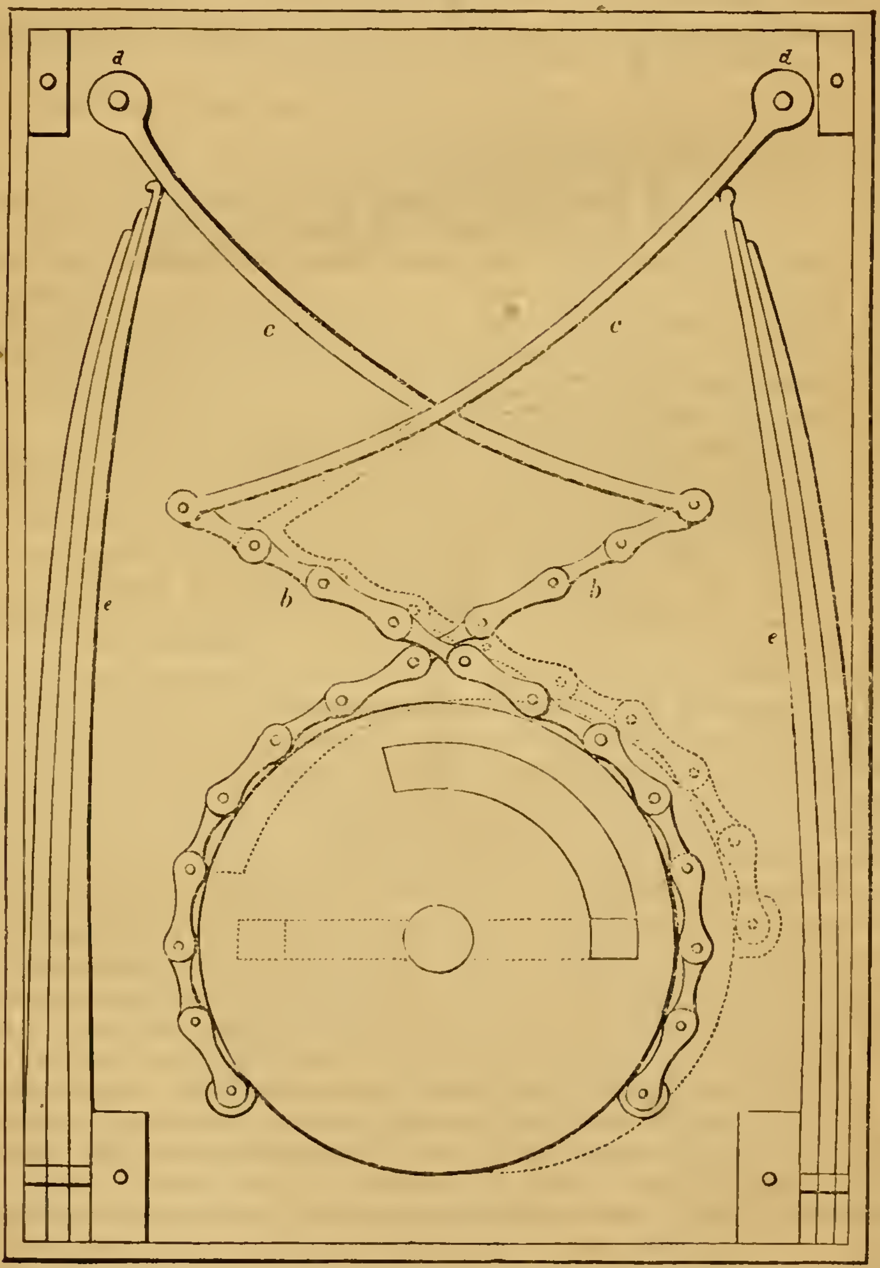
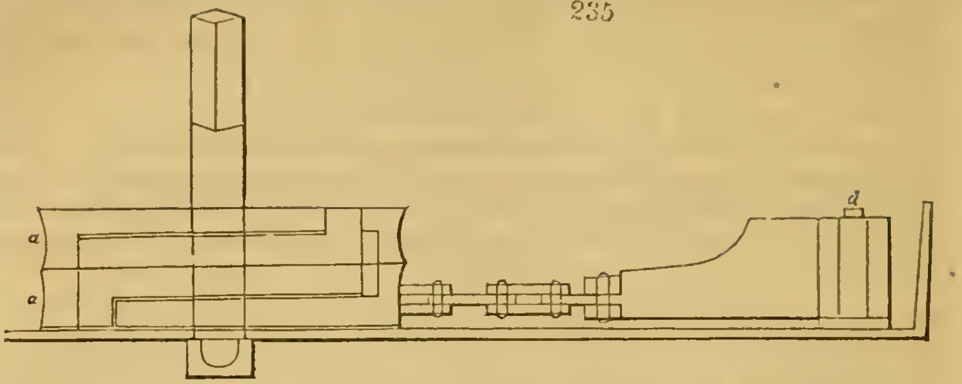


235



levers (*c c*), which move on the pivots (*d d*), close to which the triple springs (*e e*) are made to press upon these levers.

When the lever or door is pressed or opened to the right hand, the under wheel is forced round, drawing back the lever (*c*) by means of the chain (*b*), which lever the spring (*e*) presses against. There is a cog, or stop, on the under wheel, which moves in a groove, or slit, cut in the upper wheel, to prevent its being forced too far round.

In the same manner, when the lever, or door, is opened to the left, the upper wheel (*a*) is forced round, until it is stopped by the cog on the under wheel, which pulls round its chain and lever, and is pressed back again by the opposite spring (*e*). In this manner the wheels change the action upon the springs, by the door being moved to the right or left.

The object of the inventor was to make this spring go into less room, and at less expense, than the one at present in general use. It has also the advantage of being less liable to go out of order, and can be made to turn more than the quarter circle, which the other cannot. The box may be filled with oil, or the working points oiled occasionally, by removing part of the covers. By enlarging the diameter of the wheels, and strengthening the other parts in proportion, the spring can be made to suit any size or weight of doors.

The Committee of the Society of Arts reported on this spring door in April, 1834, after it had been tried on the premises of one of the reporters for three months. When we mention that one of these reporters was our correspondent, John Robison, Esq., the secretary to the Royal Society of Edinburgh, it will give our readers full confidence in the value of the invention. The report states, " Your Committee are of opinion that the construction of this door-spring possesses several important advantages over any other they are acquainted with; and as, after a trial of sufficient duration to have shown latent defects, if it had any, which had escaped their notice, they see no reason to alter the favourable opinion they had formed of it, they humbly propose that Mr. Beattie should receive some mark of the Society's approbation. The Society's silver medal (value five sovereigns) was awarded, Aug. 12. 1835.

" Your Committee beg to suggest that a small alteration should be made in the form of the pieces on which the chains are wound up; which they think should be so proportioned that, as the resistance of the spring increases, the radius, to which the chain applies should decrease; and, in this way, make the resistance of the door equal in every position, instead of, as at present, being greatest when the door is wide open." (*Edin. Phil. Journ.*, vol. xix.)

Art. III. *Retrospective Criticism.*

Erratum. — In p. 58., for "ring-posts," read " king-posts."

Literary Composition of Architects and Surveyors. (p. 470.) — In looking over the Retrospective Criticism of this month's *Architectural Magazine*, I was astonished to find there one of those productions of presuming ignorance, or wilful malice, that too often creep into the public prints; but which, fortunately, create no other feelings but those of contempt for their authors. Astonished I was; not, indeed, that a man of the stamp that this solicitor proves himself should have written such an effusion; but that you, Sir, to whom the architectural world is already much indebted, and from whom they still expect much, should have admitted such an article into your Magazine. It would be useless, indeed, to call upon you to contradict the false statement that appears therein; the numerous articles published in your work so flatly contradict it, and if this Solicitor will but take the trouble to look into any of the former Numbers of this Magazine only, he will find that architects are not only as capable of writing in as correct a style as any other professional men, but that his own letter, alas! is the first specimen of low-minded arrogance that has appeared in its pages.

I am sure you will agree with me, from remarks that you have formerly made, that, as much as any other profession, the study of architecture requires a superior and classical education; now, from the expense attendant on the pursuit, all who embrace it will naturally, from their circumstances, have previously received that education; every one may then fairly conclude what description of persons, that he by courtesy styles architects, this Solicitor is connected with.

Is it with the idea of crushing a supposed rival, and to expose the audacity of attempting to interfere with a lawyer's prerogative, that he speaks of the *jargon* of specifications and estimates? Or is it from self-interested motives that he calls for an explanation to all technical terms? thereby creating an additional demand for copying clerks, by which he may obtain some little employment. He very modestly allows, with respect to their disinclination to reform themselves, that architects do not differ from the other professions: how noble, then! how disinterested and utterly forgetful of self, it might appear, in one whose profession is granted, on all hands, to be so completely made up of abuses, to set about reforming another; but, alas! La Bruyère truly observes, "*Tel parle d'un autre, et en fait un portrait affreux, qui ne voit pas qu'il se peint lui-même.*"

His concluding paragraphs, however, are excessively amusing: — "I would strongly recommend," he solemnly observes, "all young men studying the profession, not to spend the whole of their leisure time in copying drawings, but to devote a portion of it to the study of grammar and syntax. If they do not, when they get into practice they will be laughed at by their workmen; who are now, perhaps, at the infant school." Thus it is seen, that architects, poor ignorant beings! crawl out of the nursery into their profession; while it is allowed only to bricklayers and short-sighted solicitors to study grammar at the infant school! For the future, let this accomplished man add to his experience (and profit by it if he can) the opinion of the readers of the *Architectural Magazine;* who will have formed a pretty correct estimate of his ability, and of the class of society in which he moves, "from the sort of letter he has written." — *Alpha. London, Oct.* 25. 1835.

The Regulations of the Institute of British Architects. (p. 470.) — Having taken up my pen to refute a senseless attack, that, had it appeared any where else, I should have deemed far too contemptible to notice, allow me to add a few words on a subject of a much more important nature; and one that requires a much abler critic than myself to do justice to. I allude to some remarks of your own, on the Regulations of the Institute of British Architects. No one can be a greater enemy than myself to exclusive associations of any kind, when the non-admitted have an equal claim, in every respect, to those who enjoy their privileges; but I think it also greatly incumbent on societies, at all times, to keep in view the main object of their union. That of the Society in question, I think I may safely affirm, is a contemplated advantage to both the public and themselves: as to the best mode of attaining this end, is the point on which we widely differ. I cannot imagine any very advantageous results, either from the erection of a splendid museum, or from the rearing of a whole host of architectural amateurs; while, on the other hand, I conceive the admission into an organised Society of Architects of the trades connected with that profession to be fraught with the most pernicious consequences. Permit me only to ask you, Sir, what would be the probable result, if men were allowed to practise as surgeons without having passed their examination at the College? Why, simply this; that the profession would be overrun by hundreds of the mere dabblers in drugs, from the pill-making quack to the chemist's shopman; who, alike ignorant of medicine and every thing else, would have thereby a sort of license to kill. What would be the result, too, if men were allowed to plead at the bar, without having been called there by those competent to judge of their abilities for so doing? Why, that that profession would be also overrun by a class of men of a still more doubtful cast; pettifogging lawyers, copying clerks, and *soi-disant solicitors.* And what *are*, at the present moment, the consequences of there being no restriction of this nature in the practice of architecture? Alas! those only of the most injurious kind. From the great ignorance of its principles that generally prevails, and from a vague notion that exists of the enormous expense of employing an established architect, the public are too often imposed upon by the mere pretenders in art; who, although equally ignorant of its principles, nevertheless, from being in some sort allied to the profession, consider themselves entitled to practise in it. Thus it is, that carpenters, cabinetmakers, ironmongers, upholsterers, painters, and undertakers, in short all trades directly or indirectly connected with building, usurp the privileges, without having studied even its elements: and are the public gainers by this? I recall to mind, at this moment, one case, of many, that will fairly answer this question. A gentleman, some months since, wished to build himself a Gothic villa; but, his mind being disturbed with the charges and commissions of architects, he was unwilling to employ one. In this dilemma, a house-painter, who was at work for him, generously offered to make a design: he did so, and undertook the building too; and what was the result? The *Gothic* villa cost nearly double what was intended; and there it now stands, a model of unstudied elegance, looking like an overgrown specimen of a Tunbridge Wells work-box. Should these men be admitted to the Institute, where would this evil have its bounds? Would it not be sanctioning those very impositions, which are now causing such lasting injuries to the profession, and the world at large, " elevating men in public opinion, otherwise than by their own individual merits," and placing on an equality the totally ignorant with those who had made architecture the study of their lives? The exclusive measures, of which you complain, unfortunately cannot put a stop to this growing evil; but, at the least, they will not have the effect of countenancing it. In my opinion, the most satisfactory consequences could only arise from the *severest* scrutiny being made in electing members for a Society of Architects: and I hope to see the day when the present Institute shall have been reorganised; the heads of the profession appointed its judges; and an act obtained, allowing no persons to be enrolled on its lists, or to practise as architects, until they have passed the *strictest* examinations before them. I could dilate at considerable length on the various means that the Institute would possess of disseminating architectural knowledge among all classes of society, without uniting them to their body, which would be equally efficacious in creating a more refined taste, and a consequent demand for works of a superior kind [we shall be glad if our correspondent will do so], were I not aware that I have already trespassed too much on your valuable time. England has daily cause to regret the execrable taste displayed in some of her public buildings; and I firmly believe the want of a restrictive power in the practice of architecture to be the very head and front of this offending. —*Alpha. London, Oct.* 25. 1835.

Surgeons' College. (p. 190.) — Some time ago I made some comments on the new front of the Surgeons' College, Lincoln's Inn Fields, not altogether favourable to it; but, if I then felt rather disappointed, I am now no less, yet far more agreeably so, on perceiving that it contradicts the opinion I had then formed of it: in fact, I was by far too premature in my judgment, and in very grave error, when I fancied that I then sufficiently understood the architect's intentions, although I, at the same time, betrayed that I did not, by admitting my ignorance as to whether he intended to crown the portico by a pediment, which was, by the by, such an awkward blunder, that I deserved to be quizzed for it, and must presume that my insignificance proved my shield. Pediment there is, I find, none; yet, notwithstanding, I still retain my notion as to the propriety of there being a pediment above a portico, I willingly admit that exceptions are occasionally allowable, and the front of Surgeon's College is a striking case in point. Here it certainly would have been no improvement to have added one, inasmuch as it would have quite dispelled the effect now arising from the continued upper range of windows. The truth is, I ought to have waited; for I little imagined that the architect intended to finish the whole as he has done, crowning the edifice by a superior entablature, to which that of the colonnade becomes subordinate in importance; and a façade of unusually commanding character is thus formed. This entablature, which has a dentiled cornice, enriched with lions' heads, and an inscription cut upon the frieze, combines the entire front into one mass, so that the building now looks quite the reverse of what I feared it would. The entablature is carried round the ends as far as the chimneys; which latter are by no means the least pleasing features in the design, being rendered particularly ornamental, and contributing in no small degree to the architectural expression of the *ensemble,* and to variety of outline. Owing to the greater width now given to the front, the portico does not appear altogether so large as it formerly did; but this I consider rather an advantage than the contrary, unless it were the entire height of the main structure. That and the building now harmonise with each other; whereas, before they formed a most monstrous combination, and one so disagreeable, that it was impossible even to look at the colonnade itself with any satisfaction. A view of the old front, with what renders it a still greater curiosity, the sun shining full upon it from the north-east, at a time of the day when well-dressed people are walking about, will be found in Jones's *Metropolitan Improvements;* and a more barbarous piece of architecture than it was can hardly be pointed out. The editor of that work justly condemns the building; but is too prodigal of his commendation on the portico, which then exhibited very little of Ionic character or beauty. Even taken by itself, it looked cold, bald, and unfinished; whereas, without losing any of its simplicity, or, I might say, while manifesting that quality more decidedly, it is now suitably finished up, the columns fluted, and the mouldings of the entablature carved. Frigid nakedness in architecture is not simplicity; for simplicity must be accompanied by other desirable qualities to give it value. Yet Mr. Elmes was pleased to say of this portico, in its original state, that we had nothing that surpassed it "for chaste simplicity and harmony of proportion." Where, then, was the yet unrivalled Ionic portico of St. Pancras' church, where simplicity, dignity, and grace are mingled together? The portico of the London University was then in existence, and, I believe, also that of Carlton House; the former of which *is* not, and the latter *was* not, deficient, either in simplicity or harmony of proportion. But I am running astray, and, therefore, had better break off, which I do, with my apologies to Mr. Barry for my hasty and unjust remarks on a former occasion, and my congratulations to the College of Surgeons on their possessing a building so infinitely superior to the sulky-looking one of the Physicians, in Pall-Mall East. — *Zero. London, Oct.,* 1835.

The Perspective Delineator. (p. 459.)—Unless this instrument is calculated to effect a material saving of time in making perspective drawings, I must confess I do not see the particular value of it; because the operation, as far as I can comprehend it from the description, appears to me quite as tiresome, if not more so, than the usual process; and, as to there being no occasion for vanishing points, they may be dispensed with whenever they fall at an inconvenient distance, without the aid of that, or any other instrument, by an equally simple and expeditious method. Unfortunately, however, your correspondent, Mr. Richardson, has not stated how far the delineator is serviceable in abridging the draftsman's operations.

If, on the other hand, the chief recommendation of the instrument is, that it enables those who "have no idea of drawing perspective" to work mechanically, and to make a perspective representation of any object, without knowing more than the management of the instrument, I, for one, should be so far from terming it a beneficial invention, that I should call it directly the reverse; and little better than one for preventing persons from making themselves acquainted with the principles and practice of perspective. For a draftsman to be ignorant of perspective, in which adequate proficiency may be attained in a short time by any person of ordinary application, is almost unpardonable; as unpardonable as for a writer to be ignorant of grammar. And, granting that the *delineator*, if it really deserves the character given to it, may be exceedingly useful as a mechanical aid in drawing, the same as rulers and compasses, it must be a wretched substitute for a knowledge of the principles of perspective. Once thoroughly acquainted with those principles, and n the habit of applying them, an artist acquires a promptitude, together with a correctness, both of eye and hand, which enables him to draw objects with accuracy, and observe the relative proportions and the situations of their parts, without making a strict perspective delineation, which may not always be necessary; whereas, a person who trusts entirely to an instrument will not be able to proceed a step without it, and will be obliged to make use of it continually for every part of his drawing, and be pretty much in the situation of a schoolboy, who is obliged to keep perpetually referring to his dictionary and grammar. Consequently, whatever time or trouble it may save at first, it is likely, in the end, to occasion a serious expense of both. Besides this, the delineator appears to be very limited in its application, inasmuch as it is fitted only for putting a geometrical design into perspective, and is of no assistance, therefore, in taking views: so, at least, I understand it; for I presume that the point p (see fig. 208. p. 460.), of which q is the perspective situation in the drawing, is taken from, or occurs in, a geometrical representation of the object previously drawn. If not, how do we arrive at this preparatory step in the process, or first obtain the points that are to be transferred perspectively to the drawing? Can they, too, be taken at once from any separate point or drawing of any elevation, or must the geometrical figure be made upon the top of the drawing itself? Or, must not the scale of the perspective drawing depend entirely upon that of the elevation, unless the latter be redrawn according to the scale required? So very much depends upon these circumstances, that, until they are known, it is hardly possible to judge of the real serviceableness of such an instrument. Without exactly making us acquainted with the whole mode of operation, Mr. Richardson might surely have informed us what the delineator really can effect, and what it cannot. I must confess I am rather sceptical as to the real utility of such inventions, having heard of so many for the same purpose, none of which have ever come into general use. Well do I remember seeing one which was to enable persons, utterly ignorant of even drawing, to draw objects in perspective: it was certainly very ingenious, and had but one fault, that of being of not the slightest practical service. — *Scepticus. London, Oct.* 2. 1835.

Ventilation. (p. 460.) — Verus retires from the field; Mr. Britton draws in his horns, and shrinks back into his shell, like a snail; no other champion of Sir J. Soane's bookcases shows himself; and whether Scrutator, or W. H. B., intend to take notice of me, I do not at present know: what, then, is to be done? Nothing occurs to me, but to ask whether your Magazine intends to make us all nervous, by conjuring up images of some hitherto unsuspected, yet, it appears, most formidable, perils, which beset us all. If medical, or, as a certain learned person would say, *medicinal*, writers are correct in their theories, nearly all other people are guilty of singular impertinence; namely, that of living under circumstances in which, according to these theories, they ought to be defunct, or in a fair way of speedily becoming so; seeing that they pay no attention to precepts, which, we are told, are essentially necessary to keep them alive, but which, for more than nine tenths of mankind, are, unfortunately, utterly impracticable. Having survived, and partly forgotten, these dangers, we might hope to enjoy some peace of mind; but now comes the *Architectural Magazine*, scaring us nearly out of our wits on the subject of ventilation; and pointing out the dangers that beset us both by our firesides, and in our chambers, till we feel most wretchedly, and uselessly, uncomfortable, from this new, and, to most persons, irremediable, source of disquiet. At one time it is hinted that windows reaching down to the floor are likely to be prejudicial to the eyes; and now we are again assured that, unless they are carried up quite to the cornice, the room cannot be properly ventilated. Currents of air are allowed to be injurious to the frame; and, when we have taken every precaution to prevent draughts, and render doors and windows air-tight, we find that we are no better, perhaps even worse, off than before. This is really a most deplorable situation; perplexing to the last degree. Deep cornices, entablatures, and coved ceilings, are all bad; deep and richly fringed window draperies are pernicious; and, I presume, bed curtains must be voted not at all better, or, rather, decidedly more noxious still; because, if closed, they must tend to produce so corrupt an atmosphere, that it is wonderful each sleep is not our last.

Let a bed-chamber be ever so well ventilated, what can it avail, if we sleep in an atmosphere closely confined, and pent up by curtains, which limit us to a very few cubic feet of air? It certainly appears to me, that this is by far a more serious, and at the same time more remediable, evil, than any faults in the construction of the room. I must confess, too, that I do not perceive any great mischief in the tops of the windows, in the chamber you allude to, being only ten feet from the floor, although the room itself is twenty feet high; because, granting that one half of the atmosphere is thus rendered useless, is not the other half amply sufficient? Especially when it is considered that its cubic contents must be about two or three times more than those of what are considered very good-sized bed-rooms, supposing the latter to have the advantage of 10 ft. in height of ventilated atmosphere, and the difference to be occasioned only by the greater area of the apartment; for it is to be presumed that, if the room be 20 ft. high, it is at least equal to 25 ft. square. Admitting such a bulk of atmosphere to be sufficient, the unavailable excess can be no disadvantage, while all the additional and "useless" height must, undoubtedly, be favourable to appearance, and, therefore, not utterly valueless. Thus much must, I think, be granted, or else your doctrine proves a great deal too much; tending to the alarming conclusion, that nearly every bed-chamber in the kingdom is unhealthy.

While I admit the propriety, or, if you will, the urgency, of paying more regard to ventilation, and other matters that have hitherto been not so well attended to as they ought to be, I do not see that we have much to complain of at present, or that there is room, or occasion, for any material improvement, in that respect, in the generality of our best modern-built houses. Although it may be desirable, it is not imperatively necessary, for the enjoyment of health; else, how do persons contrive, during a voyage to India, to sleep in ships' cabins? According to theory, they ought to be half dead before they are half-seas-over; and the same theory would have smothered George IV. in the private apartments of Carlton House; and would, if acted upon, prevent any man, in his senses, from sitting five hours together in a theatre, breathing an atmosphere impregnated with the grossest impurities, a "conglomerated amalgamation," as Mrs. Butler would say, of malaria and pestilence. We must either give up your doctrine, or give up our cottage residences, with their low-ceilinged rooms. Let us henceforth have done with "love in a cottage" for ever: the very idea of it is suffocation. After all, you may be right; only do not say that I am wrong in writing this, and endeavouring, if possible, to extort a smile from your absolutely horrified readers. — *Candidus. London, Oct.* 6. 1835.

Art. IV. *Queries and Answers.*

The Superficies that a warm-air Flue will heat, the dimensions being 12 in. by 12 in. outside measure, and the flue being detached, is required by — *O. London, Sept.,* 1835.

We insert this query, though we consider it much too indefinite for any useful purpose. The remainder of the same writer's letter, on hollow walls, is, in like manner, written in ignorance of what is already generally known on the subject. If O. will turn to Tredgold, *On Warming and Ventilating,* and to our *Encyclopædia of Architecture,* he will find his queries answered, and his suggestions anticipated. — *Cond.*

Cabling of Columns. — In answer to Tyro's question (p. 332.), whether the cabling or cording of columns be a modern practice, I beg to inform him that it is to be found in several ancient examples; for instance, the internal columns of the Pantheon at Rome are cabled one third of their height, and the flutes of the antæ, or pilasters, are flat eccentric curves; and the columns in the arch of Constantine are also cabled. I believe that Stuart, in his *Treatise on Ancient Architecture,* mentions several examples. — *G. B. W. London, Sept.,* 1835.

Newman's Colours, and Elliot's Instruments, I quite agree with R. V. in considering the best. — *Id.*

Boring for Water. — We should be greatly obliged to any competent reader who would draw up for us a succinct, but comprehensive, article on this subject. It can only be done by a geologist, and he will find all the requisite materials, which are chiefly French pamphlets, in the library of the Geological Society of London. Our correspondent says, "A brief narrative of the circumstances attendant on two or three of the most remarkable and most successful of its applications, and also of the greatest depths at which water has been found, would be most important, as well as very attractive, to many of your readers. In the marshes of Essex, passing through several hundred feet of blue clay, in Portsmouth Dockyard, in many parts of London, in the desert between Cairo and Suez, this beautiful improvement in wells has been adopted; and yet the public are comparatively ignorant of it." — *J. P.*

A Method of curing Smoky Chimneys. — In your first Volume, p. 234., is "A Method of curing Smoky Chimneys," by Mr. Saul; but, as I have always been taught, that "prevention is far better than cure," I should feel very much obliged if some of your readers would be so good as to enter into a detail of the various mechanical causes from which so great a nuisance arises; also to state the best way of forming flues so as effectually to prevent their smoking; and the best way of setting grates, as there is very little doubt that the way in which the grates are set operates materially either for or against the smoking of the chimney. I should like the article, or articles (the more there are of them the better, as I consider the prevention of smoky chimneys a first-rate consideration in every house), to enter into particulars and details; which will be extremely valuable to many besides — *An Occasional Surveyor. London, Oct.* 10. 1835.

Working Drawings for Bonnet Blinds. — Will any of your correspondents oblige me by giving instructions, in the shape of working drawings, of the best and simplest method of fitting up the outside sunshades (bonnet blinds, I think I have heard them called), which are so very common in the windows of good houses (facing the sun) in the neighbourhood of London? Their doing so will confer a favour on — *A Country Cabinetmaker. Hertfordshire, Oct.* 10. 1835.

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